Appendix B08 CLIN 008

Cogent, Inc. Proposal Response Technical Requirements Matrix

TECHNICAL PROPOSAL
Technical and Functional Requirements Matrix
Appendix D

San Francisco Police Department
Forensic Services Division
Automated Biometric Identification System

Due Date/Time: May 29, 2009, 12:00pm

Submitted to:
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Appendix D – SFPD ABIS Technical and Functional Requirements Matrix

Introduction:

This requirements matrix is provided to assist the Offerors with the best possible understanding of the Mandatory (Required) and Desired (Optional) characteristics of the multiple components of the SFPD Identity Solution Vision. SFPD is aware that requirements duplicate and in some cases overlap, including compound requirements. SFPD has attempted to provide a basis rich enough to allow vendors to highlight the advantages of their product by identifying performance across a broad spectrum of what is available. SFPD is also aware that some solution approaches may obviate the need for a particular requirement. Offerors are welcome to document comments or recommended changes to these requirements through the Question & Answer process.

For each of the Mandatory (designated by the Letter M) and Desired (Designated by the letter D) capability requirements specified in this section Offerors shall follow the instruction as outlined in the first section and respond whether the proposed ABIS solution meets the identified requirement and the corresponding CLIN for which the Offeror proposes to deliver the functionality.

The SFPD ABIS RFP supports the ability for Offerors to propose a 'baseline' solution for a specific function ***and*** *identify the additional cost and schedule for the delivery of additional (Desired) functionality via the 'Enhancement, Optional, Expansion CLINs. This approach provides Offerors the advantage of bidding only Mandatory Requirements for the 'baseline' solution thereby promoting a fair competition. Offerors may elect to include additional Desired Requirements in their 'baseline' proposal and receive additional score in the evaluation process.*

Response Code	Definition
SFPD Requirement	**M =** Mandatory Requirement; 100% compliance will be given the highest evaluation score. **D =** Desirable requirements, the more % compliance will be given higher evaluation score, or a number of them may be bundled into the optional upgrade CLIN increments.
Y (Yes)	Requirement will be met 'out of the box' **without** configuration, customizations or modifications (see definitions below) to the existing application or report. The functionality must be installed and operational at other sites and can be demonstrated to the SFPD-FSD.
N (No)	The functionality identified in the requirement will not be provided.
G (Configuration) **C (Customization)** **M (Modification)**	The requirement will be met by Confi**g**uration, **C**ustomization or **M**odification: **G = Configuration** - The requirement will be met through changes to setting of tables, switches, and rules without modification to the source code. Include any changes to the existing or 'out of the box' workflow functionality. **C = Customization** - The requirement will be met through changes to the existing reports or programs. This would include custom code developed to perform specific functions or validations outside the standard code. Include the creation of a new report, query or workflow that does not exist within the current application. **M = Modification** - The requirement will be met through changes to the source code which would require analysis and re-application during updates, upgrades, or when applying software patches. Note: For each of the codes **G**, **C**, and **M** in the comments column next to this response, you must indicate the following: - Description of customization - Party who will perform the work (Agency or Proposer) - Estimated level of effort involved in hours - Estimated level of complexity (High, Medium, Low)
3 (Supplied by Third Party)	Requirement will be met by third-party software package and is included in this proposal. Note: In the Comments column, indicate the name of the proposed third-party software package and indicate the interface/integration services being proposed.
F (Future)	Requirement will be met by packaged software that is currently under development, in Beta test, or not yet released. Note: In the Comments column next to this response, indicate the date when requirement will be available for implementation. If possible, also indicate any additional costs.

Proposer Response Instructions

*Please follow the instructions below to allow a uniform evaluation of the proposals. In responding to the requirements located in the section 2 tables, the following columns' labeled codes must be used. Please place one "**X**" under the appropriate response code column for each of the requirements*

Note:

1. An omitted response will be assumed to be the same as a response code of "N".
2. Only one (1) response per requirement will be accepted. Multiple responses will be re-coded at the discretion of the Agency
3. Any deviation from the response codes will be re-coded at the discretion of the Agency.
4. Due to the large number of requirements, and dividing the entries into various categories/CLINS there exists a possibility of repeated, similar, or closely similar requirements. The evaluation score will be on the all the responses to all entry including these possible duplicates.

1.1 Technical and Functional Requirements Matrix

Cogent's Response: Requirements relating to Item #9 and "All" are highlighted in yellow for ease review.

			SFPD Req	One Response Per Requirement (Vendor Use Only)					
Item #	CLIN #	Requirement	MD	Y	N	GCM	3	F	Comments
	Requirement Type – Systems Requirements								
1.	1/2	The ABIS workflow and business rules shall be flexible to fully support SFPD' legal and/or policy requirements, which may change, as well as the expansion and/or changes to SFPD' identification workflow and business rules. San Francisco and CAL/DOJ's legal and/or policy requirements require the suppression of some records from search results, and also the expiration of Latent cases due to the respective crime's statute of limitations. Not crisp enough.	D	X					This is a COTS feature of the proposed Cogent ABIS.
2.	1/2	Privilege capability which specifies user privileges including configuration parameter change authority a. Privileges for system operator with authority to change configuration parameters b. Privileges for Supervisors to change operational parameters etc	D	X					Privileges and authorities to change configuration and/or operational parameters are included on individual work stations
3.	1/2	The vendor shall provide an ABIS solution with configuration items that may be changed by SFPD operators to cause a respective system change without a system downtime, or emptying of queues. Configuration items shall include, but not be limited to, the following system parameters or settings that have modifiable value to allow respective processing or related edits to change without the requirement for a software/code change. There shall be at minimum a parameter for each of the following items: a. whether or not a technician must review/confirm all automatic system determination for fingerprint patterns b. whether or not a technician must assign fingerprint patterns to fingerprints for a transaction before a Tenprint search c. whether or not a technician must review/confirm all system	D	X					Although the Cogent ABIS does not utilize fingerprint patterns for processing, the configuration items described in items "a" through "m" can be changed as described. The configuration items preferred by the SFPD will be configured as default settings which can be modified by users with appropriate authorities. Refer to Technical Description for CLIN 1 and 2, included in this document, for more detailed discussions.

		determined/suggested composite target image substitution d. whether or not a technician must review/confirm all automatic image quality ratings other than that of a good print e. whether or not a technician must assign image quality rating for each finger for a transaction before a Tenprint search f. for whether or not images are automatically sent for quality review after image coding g. for any threshold(s) used in searching h. the maximum number of candidates to be returned in a candidate list for verification, with unique parameters for Tenprint searches utilizing a system threshold, i. the maximum number of candidates to be returned in a candidate list for verification, with unique parameters for Tenprint searches performed without a system threshold, j. the maximum number of candidates to be returned in a candidate list for verification, with unique parameters for Latent fingerprint, k. the maximum number of candidates to be returned in a candidate list for verification, with unique parameters for Latent palm print searches l. the number (1 or 2) of verifications required to finalize a Tenprint search that has at least one suspect that has been identified as a hit by a verification operator m. The number (1 or 2) of verifications required to finalize a Tenprint search that has no suspects identified as a hit by a verification operator.							
4.	1/2	The ABIS shall support separate Latent fingerprint and Latent palm print processing configuration parameters defined by the latent print examiner or the supervisor. Items shall include, but not be limited to, the following: a. Threshold Activation: The ability to turn off the ABIS scoring threshold to allow a configurable number of top candidates to return in the search result candidate list. b. Maximum Number of Candidates to be returned for comparison on a Latent search. c. Number of Latent Print Examiner verifications required to finalize the results of an evaluated Latent print search. d. A default setting for the city or county (San Francisco or the San Mateo County) search filter.	D	X					The Latent fingerprint and Latent palmprint configuration parameters described are current Cogent COTS features and will be included in the SFPD ABIS.

5.	1/2	The ABIS shall include an audit capability. This audit system will store the associated data for both Latent (both fingerprint and Palmprint) and Tenprint processing for periodic reports, adhoc reports and analysis needs. This capability shall have a configurable retention period with an initial retention of 50 years. The audit capability and production of auditing reports shall not degrade identification system performance. Not at all clear. It has to use resources, so it has to degrade. Audit information shall include processing information, as noted below, and appropriate dates and times involving: a. Transaction identification (IP address of source, transaction/case/SF#, any search id) b. Modifications (field identifier, before and after values, technician id), c. Error/rejection (types, values, technician id), d. Searches (types, such as auto process/ technician request; parameters used; technician id), e. Purge requests (TCN or SF#, technician id), f. Transaction Processing Times for all stages/queues (stage/queue name, date started/ended, time(hour/minutes/second) started/ended, time elapsed for each stage), g. Search results (candidates, ranking/scoring information, Name Search/Tech Search/Both Search indicators), h. Technician determinations (manual patterns/quality, plain to roll/palm to palm/roll to roll substitution, technician id), i. System Processing, including Actions, Technician ID, Parameters and Results for: • sequence check results, • segmentation results, • rejections, • auto patterns/quality/topological assignment, • minutiae assignment, • fingers used for a search, • sure hit determination, • candidate elimination, • SF#/image verification and validation results, • composite substitution, • multiple incident record creation,	D	X					The Cogent ABIS proposed for SFPD includes audit capabilities which can be configured by users with appropriate authority using routine Windows commands. H and I would need minor configuaration setting changes to comply with SFPD request. It can be completed in 10 hours.

		• multiple incident record modification, • multiple incident record substitution, • Individual fingerprint quality rating score (if applicable) • Automatic pattern updating, • manual pattern updating • User Administration System creations, deletions, modifications (userid of administrator, userid of subject, before and after values), • CCH/CABLE reject request.							
6.	All	The Offeror's/Prime Offeror's software solution shall support SFPD' need to retain audit records for periods no longer than 50 years.	D	X					The retention of Cogent Audit records is configurable and can be set to any period of time.
7.	All	The offeror shall provide hardware and software products that will automatically handle the transition for Daylight Savings Times and any legislated changes to Daylight Savings Times.	D	X					This is a COTS feature of the proposed Cogent ABIS.
8.	All	The Offeror shall encrypt all SFPD data, residing or in communication outside the SFPD internal network, with a minimum 128 AES encryption. This includes backup media, file transfers and external sites. SFPD shall be given all cryptographic keys used involving SFPD data and systems.	D	X					Cogent will encrypt all SFPD data as described, however, SFPD should be aware that Cal-DOJ transactions are not encrypted currently because the transactions are sent over a secure DOJ network.
9.	1/2	ABIS shall process TP/ULF searches without affecting the processing of the related Tenprint transaction in the following way? The SF# associated with the TP record shall not be blocked from other Tenprint processing while the TP/ULF search results are awaiting completion of verification. This requirement shall be incorporated in the interface to the SFPD CCH/CABLE where the SF# is generated.	D	X					The Cogent ABIS uses parallel processing thereby allowing multiple transactions during tenprint searching. Several users may view or review a transaction as there is no blocking associated with the transaction while search results are awaiting verification.
10.	All	ABIS shall have the capability to reconcile sub-systems for data integrity purposes. In other words, and for example, the same target SF#s shall be in all related databases and files and such key data shall be consistently maintained. Separate these things like all data integrity together	D	X					This is a current Cogent feature.
11.	1/2	The ABIS workstation and user interface shall allow for use of bar code readers to eliminate redundant data entry for processing, where appropriate. Examples include, but are not limited to: SF# and TCN.	D	X					This is a current Cogent ABIS capability.

12.	1/2	The ABIS shall provide for the addition of new demographic and biographic identifiers to the ABIS for candidates and search filter criteria.	D	X					Cogent meets this requirement. This requirement will be implemented system wide
13.	1/2	The ABIS solution shall provide for minutia editing of images to improve search accuracy.	M	X					This is a COTS feature of the proposed Cogent ABIS.
14.	1	The Identification Technician shall have the ability to re-launch a sequence check after an error has been resolved. An error is resolved with a correction made by the Identification Technician at the ABIS workstation. That correction will place images in their proper sequence.	D	X					Whenever a Cogent ABIS user resolves a sequence error, Cogent logic automatically re-launches a sequence check to validate the user's correction(s). Therefore, it is not necessary that the user initiates the relaunch of the sequence check, although it is possible if desired.
15.	1/2	Identification Technicians and Latent Print Examiners shall have the ability to print, to a printer, a candidate search list. This print capability shall be incorporated in the Offeror software.	M	X					This is a COTS feature of the proposed Cogent ABIS.
16.	All	The ABIS hardware shall be network enabled at a minimum speed of 1 Gbps Fibre Channel for servers and a minimum speed of 1 Gbps Ethernet for workstations.	D	X					Cogent ABIS servers are configurable and allow for the speeds requested.
17.	1	The ABIS shall be capable of holding at least 1000 work-in-process Tenprint transactions. Each transaction may have text and image data such as, but not limited to, 10 rolled finger image records, 4 plain finger image records prior to segmentation and 10 image records after segmentation, and up to 8 palm print image records.	D	X					Current Cogent AFIS installations (like LASD) exceed this requirement.
18.	1/2	System alerts shall be generated as held work-in process transactions approach 80% capacity.	D	X					Alert generation can be configured to occur at any capacity level designated by SFPD.
19.	1/2	The ABIS shall be capable of preserving records and all associated data for work-in- process transactions in the event that Tenprint and/or Latent workstation operations, database, or other related functions/services are down or unconnected to SFPD or within ABIS, for a specific time period. These records shall then be automatically available for continued processing when service is restored.	D	X					Records and all associated data for work-in-process transactions are maintained on the server side of the Cogent ABIS, and therefore available for continued processing as desired.
20.	All	After any break in processing, resumed processing shall automatically work on transactions in an order selectable by priority.	D	X					This is a COTS feature of the proposed Cogent ABIS.
21.	1/2	The ABIS shall be capable of holding at least 1000 work-in-process Latent transactions.	D	X					This is a feature currently available and in use by the LAPD, where in

									excess of 1000 work-in-process Latent transactions have been held pending review by users.
22.	1	ABIS shall retain for each individual in the target database a composite record of the best images for each of the twenty fingerprint images (ten rolled and ten plain).	M	X					This is a COTS feature of the proposed Cogent ABIS.
23.	1	ABIS shall retain for each image, a TCN, transaction source type and plain /roll indicator associated with each image. This composite record is to be continually evaluated and updated as necessary when new transactions are identified against an SF#. When a SF# has only one event, the images for that event will be contained in the composite record.	M	X					This is a COTS feature of the proposed Cogent ABIS.
24.	1	The ABIS shall retain for each individual in the target Tenprint database, the three most recent transactions' fingerprints (plain and rolled). These are referred to as Multiple Incident Records (MIR) in this RFP. A MIR record will not exist when a SF# has only one event, as the images for a single event will reside in the composite record.	M	X					This is a COTS feature of the proposed Cogent ABIS, and is configurable according to Agency requirements.
25.	2	The palm print record shall include up to 8 palm print images. Palm print records received or existing at SFPD, come from various original sources and each may have a different number of images per record.	M	X					This is a COTS feature of the proposed Cogent ABIS.
26.	1/2	The ULF File shall include the following, at a minimum: • Latent Case Number; • Latent Search ID; • Latent Print Characteristics; • Latent Print Image ID; • Image Quality; • Race; • Sex; • Pattern; • Age; • Age Difference/Tolerance; • Crime Type; • Crime Date; • Creation Date; • Expiration Date; • Tickler Date;	D	X					ULF file data is configurable according to an Agency's requirements. The described data fields are currently being used by many Cogent customers.

		• Contributor ORI (San Francisco or San Mateo, or other agencies allowed to submit to SFPD ABIS); • Original Examiner ID (of examiner that added the entry); • Assigned Examiner ID (of examiner that owns the UL Case); and search filters. • Physical Address of Latent • Item from which Latent recovered • Latent of Patent • If Patent, what substance • Technique(s) used to develop latent							
27.	All	When any data is deleted from any database or file, the space shall be automatically available for reuse.	D	X					This is a COTS feature of the proposed Cogent ABIS.
28.	All	A GUI monitoring system (System Administration Application) that displays all transaction information shall be available for all Identification Technician and Latent Print Examiner Supervisors over a secure TCP/IP thin client. This service shall be available from SFPD and San Mateo supervisors' personal computers and easily accessible. These monitoring screens shall auto refresh at specified intervals and refresh by request.	D	X					The ABIS proposed for SFPD complies with this requirement. Views are limited to authorized SFPD and San Mateo monitors.
29.	All	The GUI monitoring system shall be accessible from SFPD and other supervisors' personal computers that shall provide information that includes, but is not limited to: • A one page view of transaction counts for all queues; • From the one page view, the ability to select a specific queue to display TCNs for all transactions in process, and status and historical information for an individual transaction, when selected; This historical information shall include, but not be limited to: • Identification Technicians' userids; • Contributor ORI; • Total elased time for each queue; • Total time idle in each queue; • Total time spent working on an individual transaction in a particular activity	D	X					This is a COTS feature of the proposed Cogent ABIS, and is currently being used by the State of Maryland and City of Montreal.
30.	All	The GUI monitoring system shall have user selected or designated filtering and or sorting capability for displaying transactions, based on, but not limited to these transaction data fields:	D	X					This is a COTS feature of the proposed Cogent ABIS. Filtering capability can be set to any available

		• Identification Technician, • Status, • Work Queue, • Priority (by one or more selectable priorities), • Creation Date/Time, • Contributor ORI, • Transaction Identifier (TCN).							transaction parameter, including these listed standard data fields.
31.	All	The system shall have the ability to purge transaction(s) in work queues based on • Identification Technician, • Status, • Work Queue, • Priority (by one or more selectable priorities), • Creation Date/Time, • Contributor ORI, • Transaction Identifier (TCN).	D	X					Purging is a manual process based on user access privileges.
32.	1/2	The Offeror shall propose an ABIS capable of direct communication with the SFPD Computerized Criminal History (CCH)CABLE system	M	X					The ABIS proposed in this RFP response will be capable of direct communication as requested.
33.	All	The Offeror shall provide the following user interface features and functions for Work Queue information: • Adjust the column widths; • Hide columns; • Sort ascending or descending on any of the columns; • Filter a column based on a specific value or range of values; • Remove transactions from present display based on group selection; • Refresh the display of the Work Queue per selectable time limit; • Filter the Work Queue using wildcard and character substrings; • Cancel filtered ranges; and • The ability to find a specific transaction in the work queue by Latent File Number, Latent Search ID, TCN/SF#, Contributor ORI, or other work queue parameters	D	X					This is a COTS feature of the proposed Cogent ABIS.
34.	All	ABIS workflow shall include the sending and receiving of messages meeting NIST standards between ABIS and SFPD Store and Forward and the CCH/CABLE. If NIEM XML standards are defined and approved for the FBI/CJIS EBTS V8 Part 2 at contract time, the use of NIEM XML will require the approval of SFPD.	D	X					Cogent understands the requirement and will not use the NIEM XML standards, or any other standards not specifically approved for use by

									SFPD.
35.	3	A one, two or four finger flat verification function and device is required. This functionality shall support wired applications, and shall include verification confinement/custodial control (i.e. correctional institutions). This device shall be capable of inputting a SF# number which will then retrieve from the ABIS the images and minutiae to be compared to up to two input images collected at the remote site. This device shall also be capable of performing an image quality check prior to submission to determine if quality is too low for search and require Identification Technician to do manual checking with SFPD. This function shall return and display a comparison result of either a "yes", "no" or "inconclusive". (See Sections on DRI)	D	X					This is a COTS feature of the proposed Cogent ABIS.
36.	All	The Offeror proposed solution shall include a product, package or other means for the Offeror to produce configurable reports. Also, this solution will allow for SFPD' ad hoc reporting.	D	X					This typical request is a COTS feature of the proposed Cogent ABIS.
37.	All	With the proposed solution, all images and associated data shall be the property of SFPD. The Offeror solution shall provide a means for direct access to all images and associated data in non-proprietary format for use.	M	X					All images and data created for the SFPD will be NIST compliant and the property of SFPD. Access to all images and data is non-proprietary and therefore accessable to SFPD and any user the SFPD may choose to share the data with.
38.	All	The Offeror shall provide an ABIS solution that allows for updates to critical parameters / values without system downtime. The parameter / value update solution may be used for Tenprint and / or Latent processing and shall include, but is not limited to, the following: • Add, modify or delete parameters / values • Respective Pattern comparison values • Error values/reasons which can be selected by the automatic and/or manual processes for a transaction in Tenprint processing • Specific automatic sequence errors, denoted by SFPD, which would require workstation review in Tenprint processing. Such errors may include transposed fingers, transposed hands, and duplicate rolled fingers.	D	X					The Cogent COTS ABIS provides for updates to parameters and values in both the Tenprint and Latent processing. However, the features as described in this requirement need additional information before an accurate evaluation can be made to determine the degree of customization or modification needed, if any. Cogent will meet with SFPD personnel during the detailed design phase of the project to clarify the requirements herein, and then will provide those requirements, as agreed upon, at no additional cost to SFPD.

39.	1/2	For 500 ppi fingerprint and palm print images, the Offeror shall comply with FBI-EBTS image quality specifications and shall maintain images compressed to a maximum average ratio of 15:1 using Wavelet/Scalar Quantization (WSQ) algorithm. For 1000 ppi fingerprint and palm print images, the Offeror shall comply with FBI-EBTS image quality specifications and shall maintain images compressed to a maximum average ratio of 15:1 using JPEG 2000 algorithm.	M	X					This is a COTS feature of the proposed Cogent ABIS.
40.	All	The system shall provide an error response to the user if the user inputs a number larger than the system is configured to accept for priority.	D	X					The ABIS proposed for the SFPD currently uses a drop down list from which the user selects the priority for the transaction being generated, thereby not allowing for the user to input a non-compliant system priority number.
41.	All	The error response for priority shall provide the user an indication of the allowable values for priority	D			X			**G** – Configuration. Since the Cogent COTS ABIS does not allow non-compliant priority transactions (see #40 above) this feature is not currently used by Cogent AFIS installations. Cogent's COTS product currently generates other types of error messages from tables created, therefore, providing this feature will only require some minor changes to the tables which will be implemented by a **Cogent** Technician. This effort is estimated to require less than **10 hours** to complete. The level of complexity for this effort is **Low**.
42.	All	The system shall send an error message to the AFIS Administrator when an error occurs during search processing	D	X					This is currently done primarily through e-mail messages using SMTP communications protocol.
43.	All	The system shall provide an indication of what stage of processing the error occurred in	D	X					The wording in messages used to communicate information to users is created by Cogent customers, and since the messages are table generated they can provide the indication as

									requested.
	System Configurability								
44.	All	The system shall provide the capability to configure a workstation into a default condition that places the image being searched on the same side of a split screen for each search	D	X					This is a user-defined option for Cogent ABIS users. The default can be set as requested.
45.	All	The system shall provide the capability to allow Properly Permitted Users to override the default setting and allow Permitted Users to select which side of the screen to use for displaying the search image	D	X					This is a user defined option for Cogent ABIS users.
46.	All	The system shall provide the capability to configure workstations into specific classes with specific capabilities.	D	X					This is a COTS feature of the proposed Cogent ABIS.
47.	All	The system shall provide the capability to allow the following classes of workstations: Ten Print Verification, Ten Print Search, Latent Encoding, Latent Verification, Image Quality Checking, Exception Handling, Authentication, Livescan Submission.	M	X					Each work station proposed for the SFPD ABIS will be a multi-functional work station, with effective functionality dictated by individual user access privileges.
48.	All	The system shall provide the capability to configure a workstations into a default class.	D	X					This is a COTS feature of the proposed Cogent ABIS.
49.	All	The system shall provide the capability to allow each workstations to be capable of performing all functions in any of the workstation classes.	D	X					Each work station proposed for the SFPD ABIS will be a multi-functional work station, containing all software modules for each workstation class.
50.	All	The system shall provide the capability to allow a workstation to perform functions outside of its default class when and only when a Permitted User logs on the workstation.	D	X					Each work station proposed for the SFPD ABIS will be a multi-functional work station, with functionality determined by user access privileges.
51.	All	The system shall provide the capability to automatically allow a Permitted User to perform any function that is permitted to the user after completion of logging onto the workstation.	D	X					This is a COTS feature of the proposed Cogent ABIS.
52.	All	The system shall provide the capability to allow Properly Permitted Users to create lists of Permitted users for individual workstations and classes of workstations.	D	X					This COTS function is typically reserved for system managers or supervisors.
53.	All	The system shall provide the capability to allow Properly Permitted Users to modify, add, or delete lists of Permitted users for individual/classes of workstations.	D	X					This COTS function is typically reserved for system managers or supervisors.
54.	All	All workstations and the system shall provide the capability to maintain a list of Permitted users for each class of workstation.	D	X					This is a COTS feature of the proposed Cogent ABIS.

55.	All	The system shall provide the capability to authenticate users at logon.	D	X					This COTS feature allows the user to select from any combination of name and password, name and fingerprint, fingerprint and password, or name, password, and fingerprint.
56.	All	The system shall provide the capability to link user ID, date, and time of entry to any data saved for the user.	D	X					This is a COTS feature of the proposed Cogent ABIS.
57.	1/2	The system shall provide the capability to allow Permitted Users to display any type of print (finger, palm, latent) at any workstation	D	X					This COTS feature can be linked to user defined rights and privileges.
58.	All	The system shall provide the capability to allow Permitted Users to display images from the ABIS Database image storage at any workstation.	D	X					This COTS feature can be linked to user defined rights and privileges.
59.	1	The workstation shall provide the capability to allow Permitted users to display any fingerprint card at its original scale.	D	X					This is a COTS feature for the ABIS proposed for SFPD.
60.	All	All workstation shall provide the capability to display, receive and send images in the following formats: WSQ, TIF, GIF, JPEG AND JPEG 2000	D	X					This is a COTS feature of the proposed Cogent ABIS.
61.	All	For the images at 500ppi the WSQ default compression ratio shall be a configurable parameter.	D	X					Cogent's WSQ compression ratio is configurable with the default set at 15:1
62.	All	For the 500ppi images the system shall provide the capability to automatically recognize WSQ compression ratio on images and automatically decompress WSQ compressed images at the correct ratio.	D	X					This is a COTS feature of the proposed Cogent ABIS.
63.	All	The system shall provide the capability to allow Permitted Users to print any information displayable at any workstation.	D	X					This is a COTS feature of the proposed Cogent ABIS.
64.	All	The system shall provide the capability to print any image at its original scale.	D	X					This is a COTS feature of the proposed Cogent ABIS.
65.	All	The system shall provide the capability to allow Permitted users to select a specific printer for output.	D	X					This is a COTS feature of the proposed Cogent ABIS.
66.	All	The system shall provide the capability to log all actions performed at a workstation.	D	X					This is a COTS feature of the proposed Cogent ABIS.
67.	All	Each workstation shall allow the operator to control the time to screen saver initiation.	D	X					This Windows feature is included in the ABIS workstations proposed for SFPD.
68.	All	Time to screen saver initiation shall not be permitted to exceed Maximum Screen Saver Initiation Time.	D	X					Screen saver initiation time is set by operators using the Windows Screen Saver, a COTS feature which will be included in the ABIS proposed for

										SFPD.
69.	All	Maximum Screen Saver Initiation Time shall be a configurable parameter.	D	X						Screen saver initiation time is a component of the Windows Screen Saver used by COTS and is configurable.
70.	All	Each workstation shall allow the operator to control the time to automatic log out.	D	X						This is a COTS feature of the Cogent Active Directory currently in use by Cogent ABIS customers.
71.	All	Automatic log out time shall not be permitted to exceed Maximum Logout Time.	D	X						This is a COTS feature of the Cogent Active Directory System.
72.	All	Maximum Logout Time shall be a configurable parameter.	D	X						The maximum logout time is configurable using Cogent's COTS Active Directory System.
73.	All	All workstation shall collect performance data on users.	D	X						This data is retained in the Cogent ABIS log files and can be included in management reports for system users and/or administrators.
74.	All	Performance data shall be configurable.	D	X						Cogent ABIS performance reports can be customized to include data required by users.
75.	All	The system shall provide the capability to include print quality, number of submissions, number of identifications, as performance data.	D	X						System performance data reports can easily be customized by users selecting the data fields listed, including many others not listed.
76.	All	All workstation shall provide the capability to report user performance data to system.	D	X						This is a COTS feature of the proposed Cogent ABIS.
	Requirement Type – Tenprint Requirements									
77.	All	ABIS shall use the priority setting specified in the incoming transaction to set the priority of the transaction for processing.	D	X						This is a COTS feature of the proposed Cogent ABIS.
78.	All	The Offeror shall provide the ability to override the order of priority precedence for one or more transactions to meet the service delivery objectives.	D	X						The ability to modify the priority of one or more incoming transactions is a COTS feature of the ABIS proposed for SFPD.
79.	1/2/7	The Offeror shall maintain an ongoing conversion function as part of the Production system for batch updating of electronic fingerprint images, palm print images and associated data for an existing SF#. Batches may contain only fingerprint images; palm print images, or facial mugshot images with the	M	X						The File Import function of the Cogent COTS ABIS enables users to import fingerprint, palmprint, and mugshot images as well as

		associated data. This shall include batch processing for additional conversion after the initial conversion phase has been concluded and the ABIS is in Production.							associataed demographic data and either record, add or replace to the existing database files in batch mode.
80.	All	The ABIS shall enable an Identification Technician to reject a transaction at any time during the pre-search process. A message shall be sent back to the supervisor at SFPD with, at a minimum, the following information: • Rejection reason(s) • Date/time of rejection • TCN	D	X					This is a COTS feature of the proposed Cogent ABIS. Users are able to reject or delete transactions during the pre-search process. The notification message as described will be configured using the COTS Active Directory process.
81.	All	The ABIS shall accept a purge request at anytime throughout the process. At the time of the purge request, all processing of the transaction shall conclude.	D	X					This is a COTS feature of the proposed Cogent ABIS.
82.	All	The SABIS shall enable an Identification Technician to modify a transaction during the pre-search process. These modifications shall include, at a minimum, the following information: • Manually assigned patterns • Selection/De-selection of Rejection reason(s) • Visual /coder qualities • Minutiae editing • Plain to roll or roll to roll replacement • Comment	D			X			**G** – Configuration. The ability to modify a transaction is a COTS feature of the proposed Cogent ABIS. Manually assigning patterns or editing minutiae is not required with the Cogent ABIS as these are automatic functions in the normal COTS work flow. However, the ABIS can be configured to require that these tasks be handled manually through changes to settings and tables which would be made by qualified **Cogent** Technicians. This is a minor effort requiring less than **15 hours** to complete. The level of complexity for this effort is **Low**
83.	1	The Offeror shall propose a ABIS capable of performing different types of Tenprint to Tenprint searches using from 1 to 10 fingers, such as, system initiated transaction searches; Identification technician initiated searches; self searches; and off-line searches. The number of fingers for system initiated transaction searches would be based on the Offeror's/Prime Offeror's requirement to attain the stated accuracy rates. Identification Technician initiated searches would be based on the Identification Technician's selection of any finger and any number of fingers. In an off-line search, the acquisition may be from 1 to 10 fingerprint images.	M	X					The search functionalities as described herein are current Cogent ABIS COTS capabilities. The Royal Canadian Mounted Police (RCMP) uses this feature to allow an operator to select certain parameters including which finger images to search on all transactions received from remote locations.

84.	1	The Tenprint identification process shall initially search, at a minimum, the rolled composite images.	M	X					This is part of the Cogent Tenprint COTS identification process.
85.	1	ABIS shall be able to process and identify Tenprint transactions that are ABIS Update Ineligible. These transactions shall not add the fingerprints to the Tenprint database or update to a composite record.	M	X					The COTS functionalities of the Cogent ABIS allow for search only transactions which do not add to or update the ABIS composite record.
86.	1	The ABIS shall have the ability to mark fingerprint images from the current Identified transaction as potential substitution in the composite record for the individual. The ability shall be provided both automatically by the ABIS and manually by an Identification Technician. A selectable option for transactions automatically marked by the ABIS shall allow an Identification Technician to confirm the substitution and possibly switch individual rolled or plain fingerprint identification images before confirmation. This confirmation shall take place at the end of the identification process before an update takes place.	D	X					The desired capability as described is a COTS feature provided by the proposed Cogent ABIS. The NIST server component of the ABIS updates records, including composite records within the ABIS.
87.	All	ABIS shall support image resolutions of both 500 and 1,000 ppi in all aspects of capture, processing and archiving, both internally (in-house capture equipment) and externally (contributor Livescan devices).	M	X					This is a COTS feature of the proposed Cogent ABIS, as first installed and used by Los Angeles County.
88.	All	In the event that industry trends move beyond 1,000 ppi, the system shall be able to be upgraded to accept greater than 1,000 ppi images.	D	X					Cogent is an active participant in standards setting workgroups such as NIST, and is commited to providing future image requirements to all Cogent ABIS users. In the event image requirements move beyond 1000 ppi, an upgrade will be provided to SFPD at no cost.
89.	All	The ABIS shall have the ability to present side by side view of acquired fingerprint image(s) and the images for an entered target SF#.	M	X					This is a current Cogent COTS feature available when using the Tenprint and Latent Verification transactions. Using the side-by-side function, operators are able to select records from the search cue and compare them with records in the database.
90.	1	The ABIS shall have the ability to search the target Tenprint database based on image(s) acquired by an Identification Technician. This transaction will not result in an update to the target database.	D	X					The Search Only transaction is a Cogent COTS feature. It does not update any databases unless

									specifically designated to do so in the work flow.
91.	0	The ABIS shall have the ability to process hard copy cards. This scenario shall include FBI certified equipment that allows for the manual capture of fingerprint images, palm print images, and appropriate data. The manual capture device shall allow for the capture of fingerprint images and palm print images with no degradation of the images. This capture shall conform to the IAFIS Image Quality Specifications provided in Appendix F of the CJIS Electronic Biometric Transmission Specification, which can be found on the FBI web site at: http://www.fbibiospecs.org/fbibiometric/docs/EBTS%20V8.002%2010-24-07.pdf	D	X					The ABIS will process hard copy cards submitted for the original conversion, in addition to incremental DOJ and FBI formatted cards submitted after initial conversion. Submissions from the original conversion and subsequently will impose no degradation of image quality and shall conform to the IAFIS image Quality Specifications in Appendix F of the CJIS Electronic Biometric Transmission Specification. Cogent shall utilize scanning hardware and software that is approved and listed on the master listing of certified scanning systems/devices. This includes the Improvision IS510-Ik highspeed scanner which operates with a batch feed and converts images at either 500 ppi or 1000 ppi. This proven scanner was first certified by the FBI February 11, 2003 in compliance with IAFIS Image Quality Standards under Appendix F.
92.	0	Hard copy acquired fingerprint transactions must be formatted in the specified format that will be required by SFPD NIST record format. (Should the XML NIEM message format for this type of message be defined and agreeable to both SFPD and the Offeror, then that format may be applied for this message.	D	X					The hard copy acquired fingerprint transactions will be formatted in the specified format required by SFPD NIST record format. If the XML NIEM message format is defined, that format may be applied for messaging, upon mutual agreement between SFPD and Cogent.
93.	2	The ABIS shall have the ability to acquire and update SF# associated hard copy palm print images at 1,000 PPI which are not associated with a Tenprint Identification transaction.	D	X					Palmprint only database records are acceptable in the Cogent COTS ABIS.

94.	1/2	ABIS shall not automatically reject the Tenprint transaction if the related Palm Print images are designated as poor quality.	M	X						The Cogent ABIS can be configured to automatically allow a Tenprint transaction, which contains poor quality palmprint images, to proceed, or to automatically reject the entire identification transaction pending a resubmission of the record with acceptable quality Palmprint images. The Cogent COTS ABIS can also be configured to automatically request a new palmprint record while allowing the Tenprint transaction to proceed, or to accept the poor quality record.
95.	1	ABIS shall store for Tenprint transaction processing the following results, which will be available via an immediate TCN inquiry through a GUI: • Pattern and quality assignment values(manual and automatic), date/time, • and Identification Technician userid • Topological mapping, if used in the Offeror's/Prime Offeror's solution • Automatic sequence check information • Encoding information, such as scores (if used) • Errors detected during automatic system checks (i.e. pattern mismatches, segmentation/sequence errors, quality problems) • Identification Technician's problem resolution information (i.e. pattern changes, image manipulation such as roll to roll or slap to roll image switch, and minutiae editing, as well as date/time of resolution and Identification Technician userid)	D			X				**C** – Customization. The Cogent COTS ABIS proposed for SFPD currently logs all of the data requested, except Automatic Sequence Check and Pattern, a Assignment Value information. Since current Cogent ABIS users have not required the use of Pattern Assignments nor the reporting of Automatic Sequence check information, providing those components will necessitate the creation of minor work flow and reporting changes. These changes will be performed by a qualified **Cogent** Technician. It is estimated that the time needed to accomplish this will be less than**20 hours**. The level of complexity for this effort is **Low**
96.	1	The ABIS shall perform auto-class pattern classification. The system shall compare auto-class patterns with manually assigned patterns to determine mismatches.	D			X				**C** – Customization.This functionality is not a current Cogent ABIS COTS process, since the Cogent COTS ABIS performs 100% penetration for every search transaction and does not

									rely on pattern classification , The desired requirement as defined can be developed with minimum effort by a **Cogent** Technician, and will require less than **20 hours** to complete. The level of complexity for this effort is **Low.** However, it will not increase the accuracy but will have an impact on the workload of the operator
97.	1	The ABIS shall automatically code and flag poor quality fingerprint images.	M	X					This is a COTS feature of the proposed Cogent ABIS.
98.	2	The ABIS shall automatically code and flag poor quality palm print images.	D			X			**G** – Configuration. Although this is not a current Cogent COTS functionality, it can be developed. This is a minor effort which will be accomplished in less than **15 hour**s by a qualified **Cogent** Technician. This does not require modification to the Cogent source code. The level of complexity for this effort is **Low.**
99.	1	The ABIS shall automatically segment plain fingerprint images.	M	X					This is a COTS feature of the proposed Cogent ABIS.
100.	1	The ABIS shall automatically perform fingerprint sequence checking.	M	X					This is a COTS feature of the proposed Cogent ABIS.
101.	2	Palm print encoding, quality checking, and sequence checking shall be performed and noted in the ABIS results on all palm prints, where applicable. Automatic sequence checking shall ensure that palm prints are in the proper position (i.e. the left palm in the left palm capture box) and associated with the correct hand (i.e. using a finger for verification, when available). Fingerprint transactions shall not be forced for manual review/ Post Encoding/Quality Control for problems detected solely with palm print images.	M	X					The requirements as listed are current Cogent COTS ABIS functionalities.
102.	All	The ABIS shall accept SFPD Transaction Requests identified by TCN, sent via SFPD (CCH)CABLE.	D	X					The desired requirement as defined will be included in the work flow of the ABIS proposed for the SFPD. The requested details and format will be established during detail design

									phase.
103.	1	The ABIS shall process and merge candidates for Tenprint verification as follows: • Name search candidate SF# numbers, submitted from the SFPD (CCH)CABLE System, with a name search score below a SFPD defined high name search score, shall be eliminated by ABIS based on a comparison of the candidate's fingerprint patterns with a corresponding transaction's assigned pattern classification. • Any name search candidate whose fingerprint patterns are not considered a match with the transaction's patterns will not be sent for verification. • A technical search is launched by the ABIS and the suspects returned for verification are merged with the suspect list resulting from the name search candidate/transaction pattern comparison, plus field hit and number hit SF# candidates. • Name search candidates with a name search score that is equal to or greater than a SFPD defined high name search score; field hit; and number hits are SF# candidates that are all submitted from the (CCH)CABLE and are included in the candidate list for verification but are NOT subject to pattern comparison. • This merged candidate list is sent for verification. The merged candidate list shall be displayed for verification in the order of most likely to least likely match, with duplicate candidates only appearing once. • The most likely candidate matches are where a candidate is from both the technical search (above threshold) and any other type list. • A name search candidate whose name search score is below a SFPD defined high name search score, is considered a potential match to an input fingerprint transaction when there is a match of fingerprint patterns to nine of ten respective fingers between the name search candidate and the input fingerprint transaction. This potential match scenario described above results in a filtered name search candidate. Fingerprint patterns are considered a match when; • the fingerprint patterns are an exact match, or • any primary pattern or reference pattern of a search candidate finger matches any primary pattern or reference pattern of an input finger, or • a search candidate fingerprint pattern or an input fingerprint pattern is equal to the value of a missing finger, or	D			X			**C** – Customization. Processesing and merging of candidates for Tenprint verification will be provided as described in the desired requirement. The following responses correspond to the appropriate bullet in the requirement: Since the Cogent COTS ABIS does not use pattern classification for filtering or classification, complying with the requirements described in the first and second bullets will necessitate some minor changes to exisiting tables and work flows. Modifications to the Cogent ABIS source code will NOT be required. Third Bullet – The Cogent ABIS COTS work flow includes merging name search results (1:1) with standard open search results (1:N) to form one candidate list. Fourth Bullet – This requirement appears to be an exception to the aforenoted third item. Since the Cogent ABIS work flow uses 100% database penetration as a default, the Cogent COTS ABIS complies with this requirement. Fifth Bullet – Cogent ABIS COTS candidate lists displayed for verification show candidates most likely to match in the top position and duplicate candidates appear only

		• A search candidate fingerprint pattern or an input fingerprint pattern is indeterminable.							once as required. Sixth Bullet – This requirement is not entirely clear as "any other type list" is not sufficiently defined to clearly indicate Cogent's ABIS compliance. Cogent is confident that the Cogent COTS "Fusion Matching" will be able to merge candidate information from several lists and combine the results to form a single candidate list with the highest scoring candidate in the number one position. Seventh Bullet – Even though the Cogent ABIS COTS workflow does not place emphasis on patterns, a name search candidate with a low score, but with nine out of ten finger patterns that match can be included in a candidate list for latent examiners. This will require some minor changes to the COTS work flow. Bullets Eight through Eleven – The Cogent COTS ABIS proposed for the SFPD complies with all fingerprint matching rules as defined. The changes needed to comply will all the noted desired requirements will require less that **20 hours** of development by a qualified **Cogent** Technician. **Cogent**'s level of complexity for this

									effort is **low.**
104.	1	If a Name search candidate is eliminated based on the pattern comparison rules, results of the eliminated candidate returned to SFPD are, at least: • TCN • SF# • Pattern Eliminated Indicator	D			X			**G** – Configuration. Current Cogent ABIS work flow allows for the elimination of name search candidates for rules other than pattern comparison (not currently used by Cogent customers), however, this desired requirement can be provided with minor changes to the work flow without modification to the Cogent Source Code. This change would be incorporated when the changes made to comply with requirement #103 above are developed. **Cogent**'s level of complexity for this effort is therefore **Low.**
105.	1	The ABIS shall have a technical search with thresholding. This search matches the characteristics of the incoming fingerprint images to those on the target database and when the images of a target database SF# match the input image above a predefined SFPD threshold, the associated SF# is produced as a candidate.	D	X					This is a COTS feature of the proposed Cogent ABIS.
106.	1/2	If an identification is a "Sure Hit", the identification results of the candidate returned to SFPD are, at least: • TCN • SF# • Sure Hit Indicator • ABIS score	M	X					The identification results requested as well as others SFPD may select to be included in the identification return will be provided and are a component of the Cogent COTS ABIS.
107.	1	The ABIS shall allow for one or more additional technical searches of the composites and MREs for a Tenprint transaction when no identification is made from the results of the first search. If technical searching has filtering of any type, then non-identifications shall undergo a more penetrating system driven no threshold search using selectable parameters. Such parameters will consist of the number of search candidates, gender, and the use of additional and/or different fingers from the initial search.	D	X					Since the Cogent COTS ABIS does not use filtering, allowing for one or more additional technical searches as described will be provided in the ABIS proposed for the SFPD.

108.	1	After the ABIS identification process is initially completed, a Transaction Response is sent from the ABIS to the SFPD (CCH)CABLE. In the case where this Transaction Response includes identification, the SFPD (CCH)CABLE may subsequently respond to the ABIS with another Transaction Request for that transaction. This Transaction Request indicates that SFPD invalidated any Hit/Identification from SAFIS. The ABIS shall act on the request as follows: A single no threshold search is launched to produce another candidate for verification. No repeat candidates from prior search(es) for this fingerprint transaction TCN will be sent to verification or returned in the subsequent SFPD response. After searching and subsequent verification (if necessary) is completed, another Transaction Response message is returned to the SFPD (CCH)CABLE from the ABIS with any new candidate's Candidate Identification Indicator.	D	X					This work flow is a readily available COTS feature of the proposed Cogent ABIS.
109.	1	After the ABIS identification process is initially completed, a Transaction Response is sent from the ABIS to the SFPD (CCH)CABLE. In the case where this Transaction Response includes no identification, the SFPD (CCH)CABLE may subsequently respond to the ABIS with a single additional Transaction Request for that transaction. This Transaction Request indicates that SFPD has another name search candidate for verification on the ABIS. The ABIS shall edit and act on the request as follows: 1. ABIS pattern comparison will be performed between that name search candidate's SF# pattern on the target database and the transaction fingers' patterns 2. If the name search candidate's fingerprint patterns are pattern eliminated, then the Transaction Response message is returned to the SFPD (CCH)CABLE with that new name search candidate's Candidate Identification Indicator of "Pattern Eliminated". 3. If the name search candidate's fingerprint pattern is not pattern eliminated, then the candidate is sent for workstation verification and when subsequent verification is completed, another Transaction Response message is returned to the SFPD (CCH)CABLE from the ABIS with the new candidate's Candidate Identification Indicator.	D			X			**G** – Configuration. The desired requirement will be included in the work flow for the Cogent ABIS proposed for the SFPD. As previously noted, fingerprint pattern comparison and/or pattern filtering is not a current Cogent COTS configuration, however, it can be provided for the SFPD ABIS after some minor changes to the work flow are implemented. This change would be incorporated when the changes made to comply with requirements #103 and #104 are developed. Modifications to the Cogent Source Code are not necessary to meet this desired requirement. **Cogent**'s level of complexity for this effort is therefore **Low.**
110.	1	The ABIS shall process Final Identification Message from the SFPD (CCH)CABLE as follows: 1. If the TPULF-eligible is set, ABIS shall automatically initiate a TP/ULF search with the transaction's images.	D	X					The final identification messages as defined in the desired requirement will be provided in the proposed SFPD ABIS.

		2. In addition, for all Final Identification messages a. If SF# is present in the message and the transaction is eligible for ABIS updating, perform the applicable target database update/modification process of the record and respond to SFPD (CCH)CABLE with the File Status Response message including the type of transaction (TOT) as TRANCLSD (tran closed). b. IF SF# is present in the message and the transaction is ABIS Update Ineligible, update the audit system and respond to SFPD (CCH)CABLE with the File Status Response message including the type of transaction (TOT) as TRANCLSD (tran closed). c. If SF# is not present in the message, update the audit system and respond to SFPD (CCH)CABLE with the File Status Response message including the type of transaction (TOT) as TRANCLSD (tran closed).							
111.	1	Fingerprint acquisition and related ABIS Update Ineligible searches (inquiry transactions) shall be executed from remote sites without updating the permanent target ABIS database.	M	X					This is a COTS feature of the proposed Cogent ABIS.
112.	1	When the system is configured for one-step verification, the ABIS shall have another configurable capability for specific instances where exceptions exist that require a second step (or validation) to occur. These instances may consist of, but are not limited to: 1. A Dubious identification scenario – shall include such criteria as (a) Year of birth difference of seven years or more; or (b) low matching scores, or the equivalent. 2. There is no identification decision or there is an inconclusive decision for a suspect verification by the first verifier when performing one-step verification	D	X					The system configuration allowing for a second step validation (or more) as described in the desired requirement is currently available in Cogent ABIS work flows designed for existing Cogent ABIS users.
113.	1	If all twenty finger images (both the rolled images and the plain images) have been stored in the system, all twenty, are to be made available from tenprint target database for comparison purposes.	M	X					This workflow is a COTS feature of the proposed Cogent ABIS.
114.	1	During the initial verification and validation process, no scores or biographic data shall be displayed on the screen.	M	X					This is a COTS feature of the proposed Cogent ABIS.
115.	1	All SF# candidates require a decision i.e. hit/no hit/inconclusive.	D	X					This is a COTS feature of the proposed Cogent ABIS.
116.	1	Image clarification and orientation applied to the search image will be retained when progressing through the candidate search list. Identification Technicians	D	X					Any rotation, brightness, or contrast adjustments applied by an

		can return to the original fingerprint image and orientation by a single mouse click or key press throughout that identification transaction.								Identification Technician will be retained as the ID Tech views other candidates on the candidate list.
117.	1	At a minimum, Identification Technicians performing verification shall be able to view candidate rank, SF# number and TCN.	D	X						The ability to view identification criteria is configurable with the Cogent COTS ABIS. The fields desired will be included in the proposed ABIS.
118.	1	The identification results of the candidate(s) returned after verification/validation are: • TCN • SF# • Identification result • ABIS score	D	X						The identification results requested as well as others SFPD may select to be included in the identification return will be provided and are a component of the Cogent COTS ABIS.
119.	1	For each search candidate in Validation, search scores, candidate rank, biographic data, candidate origin ((CCH)CABLE suspect or technical search suspect), and search type, will only be made available upon request for display purposes by accessing a popup window.	D			X				**M** – Modification. The data/information listed as being desired for display in a pop-up window for validators is presently displayed on the Cogent COTS validation screen, without the need for reviewing a pop-up window. This data/information can be displayed in a pop-up window, if that option is preferred by the SFPD, with minor modifications to the current Cogent work flow and tables. These modifications will be made by a **Cogent** Technician and will require less than **10 hours** to complete. The level of complexity for this effort is **Low**.
120.	1/2/3	Validators shall be able to modify patterns and re-launch searches from the workstation.	D	X						This is a COTS feature of the proposed Cogent ABIS.
121.	1/2/	When transaction validation is complete, ABIS returns Transaction Response to SFPD (CCH)CABLE.	D	X						The desired requirement as defined will be included in the work flow of the ABIS proposed for the SFPD.

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122.	All	ABIS shall allow exception processing for both TCN-based search transactions and SF#-based search transactions.	D	X					Both desired requirements as defined will be included in the work flow of the ABIS proposed for the SFPD.
123.	All	TCN-based transactions shall require exception processing when transactions declared non-identifications in Verification/Validation but could also be a hit based on: • high name search score, and/or • a candidate produced from both name search and technical search, and/or • a candidate produced from a contributor supplied number (field hit or number hit).	D	X					The Cogent COTS ABIS work flow proposed for SFPD will be configured to include the exception processing as defined.
124.	All	Search transactions requiring exception processing before final identification result is returned to the SFPD (CCH)CABLE include those where: • The verification and validation results do not match • Any SF# candidate is not present on the ABIS (if this is possible, such as completely bandaged hands)	D	X					The Cogent COTS ABIS work flow proposed for SFPD will be configured to include the exception processing as defined.
125.	1	ABIS shall allow for rechecking (additional review of transaction before final non-identification decision is made), from the workstation, on an as	D	X					This desired requirement as written is incomplete. The Cogent COTS ABIS does allow for rechecking a transaction before a final non-identification (or identification) decisions are made.
126.	1	Re-checkers shall have the capability to overwrite any part of the search criteria (patterns, search fingers	D	X					The work flow for the Cogent ABIS proposed for the SFPD allows an operator to overwrite any search criteria used in the initial search and relaunch the search using the new (rewritten) criteria.
127.	1	Re-checkers shall have the capability to change search criteria and subsequently launch searches that will retain original search transaction for updating the target database. These criteria shall include, but not be limited to: • Selecting/deselecting fingers used in the search • Patterns and pattern references • Sex	D	X					The work flow for the Cogent ABIS proposed for the SFPD allows an operator to overwrite any search criteria used in the initial search and relaunch the search using the new criteria.

128.	1	ABIS shall trigger exception processing for SF#-based transactions that require pattern reconciliation for the incoming transaction versus the target record against which the transaction was identified. When the images for the transaction are identified to a SF#, but the related patterns are not similar per SFPD defined pattern comparison rules, the transaction will be placed in exception processing. An Identification Technician shall have the ability to view all images on an ABIS workstation and change the patterns on the composite record, if necessary.	D			X			**G** – Configuration. The desired requirement will be included in the work flow for the Cogent ABIS proposed for the SFPD. As previously noted, fingerprint pattern comparison and/or pattern filtering is not a current Cogent COTS configuration, however, it can be provided for the SFPD ABIS after some minor changes to the work flow are implemented. This change would be incorporated when the changes made to comply with requirements #103, #104, and #109 are implemented. Modifications to the Cogent Source Code are not necessary to meet this desired requirement. **Cogent**'s level of complexity for this effort is **Low**.
129.	1	Upon receiving a Final Identification Message from SFPD for transactions that are identified to an existing SF# on the target database (SF# information will be updated), the ABIS shall compare the patterns from the transaction with the corresponding patterns on the target database and process according to the following: • If for all fingers each finger's patterns are identical or the pattern in the target database is a subset of the pattern in the transaction, no pattern updating is necessary and normal processing can continue. • With the exception of Unknown (?) and Missing (M) pattern types, if any finger's pattern comparison fails to meet the above comparison rule, the pattern for that finger from the transaction shall be merged with that finger's target database pattern, updated and the transaction shall be sent to exception processing for review. • For identified SF#s that have Unknown (?) or Missing (M) pattern types on the target database and the transaction has a pattern type of /, \, A and/or W, do not update the patterns from the transaction to the existing SF# and send the transaction to exception processing for review.	D			X			**G** – Configuration. The desired requirement will be included in the work flow for the Cogent ABIS proposed for the SFPD. As previously noted, fingerprint pattern comparison and/or pattern filtering is not a current Cogent COTS configuration, however, it will be provided for the SFPD ABIS after some minor changes to the work flow are implemented. This change would be incorporated when the changes made to comply with requirements #103, #104, #109, and #128 are developed. Modifications to the Cogent Source Code are not necessary to meet this desired requirement. **Cogent**'s level of complexity for this effort is **Low**.

		• For identified SF#s that have Unknown (?) or Missing (M) pattern types on the transaction and the corresponding finger's patterns on the target database is /, \, A and/or W, do not update the patterns and send the transaction to exception processing for review.							
130.	1	Any image or search data changes to a SF# record shall automatically launch TP/TP and TP/ULF searches. For any TP/TP searches that result in a hit, ABIS returns 'SF# search' Results message to SFPD (CCH)CABLE.	D	X					The Cogent ABIS work flow automatically re-launches ABIS searches whenever the search criteriais changed. Identification messages (hits and/or no hits) will be transmitted as required.
131.	1	The ABIS shall be able to run SF#-based self-searches utilizing selectable search parameters and/or a SF# list supplied by SFPD and/or all records not searched or identified to in a previous timeframe. The ABIS must support this functionality without impacting priority work. For any searches that result in an identification(s), ABIS returns 'SF# search' Results message to SFPD (CCH)CABLE.	D	X					The Cogent COTS ABIS work flow proposed for SFPD will be configured to include the self-searches and return messages as described in the desired requirement.
132.	1	ABIS shall provide a function to modify a composite and/or MRE in the event of an erroneous identification	D	X					This is a COTS feature of the proposed Cogent ABIS.
133.	1	ABIS shall receive and process 'SF# Status' messages from SFPD (CCH)CABLE, after SFPD processing has performed a record maintenance or other update upon a SF# number. If the message contains an event count field value of "0" for the SF#, then ABIS shall delete the SF# from the ABIS, and format and send SF# Status Response message to SFPD. If the SF# Status message contains an event count field value greater than "0", then SAFIS shall compare that data with the corresponding data on the target database for the SF#, and update ABIS appropriately, if necessary, to contain only the corresponding data that is in the SF# Status message. This is necessary because the SFPD (CCH)CABLE will determine the ABIS eligibility as well as the most current biographic and demographic data for the SF# numbers in the ABIS target database(s). ABIS returns a SF# Status Response message to SFPD (CCH)CABLE. See Appendix J, Tables 1a – 1e for message requirements.	D			X			**C** – Customization. The Cogent COTS ABIS proposed for SFPD can be configured to include the work flow as described in the desired requirement. This work flow customization will require minor changes to the current COTS work flow which will be accomplished by a qualified **Cogent** Technician. It is estimated that the time needed to accomplish this task will be less than **10 hours**. The level of complexity for this effort is **low**.
134.	1	The ABIS shall send an ABIS FILE Maintenance Notice message. to SFPD (CCH)CABLE when information kept on the SFPD system is changed on the ABIS (i.e. patterns, quality of images).	D			X			**G** – Configuration. The ABIS Maintenance message as described is not currently a Cogent ABIS COTS functionality, however, it can be provided with relatively minor work flow changes. These changes will be

									accomplished by a **Cogent** Technician and will require less than **20 hours** to complete. The level of complexity for this effort is **Low**.
135.	All	All ABIS data must be viewable, by SF# or TCN, via a user interface.	M	X					The ability to view all data from the Cogent ABIS via a user interface is a COTS function.
136.	All	User Interface screens shall be used by Identification Technicians and will display real-time transaction based information. The field information displayed should be selectable for a given transaction. This information should include, when present, but not be limited to: • TCN; • Current Status/Queue; • Name; • Contributor ORI; • Type of transaction; • Fax Number; • Arrest number; • CJTN; • Transaction Processing Times for all stages/queues (stage/queue name, date started/ended, time (hour/minutes/second) started/ended, time elapsed for each stage)); • Pattern Assignments for each finger by stage/queue including Identification Technician userid and pattern (auto classification, manual, topological, if used); • Quality Assignments for each finger (coder and manual, if used)by stage/queue including Identification Technician userid and score, if used; • Rejection Reasons, both actual and tentative, and Identification Technician userid by stage/queue with date and time of rejection; • Image Substitution Performed with Identification Technician userid and finger numbers by stage/queue; • Exception Processing results; • Verification/Validation results; and • Sequence Errors detected.	D			X			**G** – Configuration. The Cogent COTS ABIS already displays most of the transaction based information defined in the desired requirement, however, minor work flow changes and changes to tables used by the ABIS will be necessary to present all the information and data defined. The ABIS proposed for the SFPD will include the information as requested in the requirement after the work flow and table changes have been made by a **Cogent** Technician. It is estimated that this effort will require less than **25 hours**. The level of complexity for this effort is **Low**.

137.	All	A user interface screen shall include Transaction source type for each image for an SF#.	D			X			**M** – Modification. Data pertaining to the source of ABIS transactions is currently logged but not displayed in the Cogent COTS application. Displaying this information on the Cogent ABIS interface will require minor table modifications, which will be completed by a **Cogent** Technician. The time estimated for completing this task is less than **20 hours**. The level of complexity for this effort is **Low**.
138.	1	A user interface screen shall include the following SF# information: • Patterns – values on the system currently, manual and/or auto class indication for each finger. • An indicator if the finger was captured from a rolled or a plain impression. • The Quality for each finger, visual rating coder score and coder rating. • Indication for each finger that has a scar (SR). • The event count • TCN's for latest five transactions associated to a SF#. A hyper-link for each TCN to the Audit information, when selected, will return all TCN information to the user interface.	D			X			**M** – Modification. The Cogent ABIS COTS Verification screen currently displays pattern information beneath each side-by-side image, as well as an indicator whether the fingerprints are from rolled or plain impressions. The quality score for each finger is also displayed below each side-by-side image on the Verification screen. The remaining requirements will be included in the Cogent ABIS proposed for the SFPD, but will require minor modifications to existing COTS tables and the current work flow. This effort will require approximately **15 hours** and will be completed by a **Cogent** Technician. The level of complexity for this effort is **Low**.
139.	1	A user interface screen shall include the following TCN information: • a hyper-link on the identified SF#, if applicable. When selected, the SF# link will return the SF# information to the user interface. • Verification and Validation results on one screen.	D			X			**M** – Modification. The Cogent COTS ABIS currently does not provide hyper-links as requested, Validation and Verification results are currently displayed on the COTS

									Verification screen. Providing hyper-links will require changes to the current programs and some custom code development which will be completed by **Cogent** Engineers and Technicians. It is estimated that this effort will require less than **15 hours** to develop. The level of complexity for this effort is **Medium**.
140.	1	The ABIS shall permit an Identification Technician to process through a range of transactions or all transactions in a Work Queue, without having to return to the Work Queue to select the next item to be worked on. The next transaction shall automatically be made available upon completion of the current transaction.	D	X					This is a Cogent ABIS COTS functionality and will be included in the ABIS proposed for the SFPD.
141.	1	The system shall provide the capability to prevent users from altering any characteristics from non latent print automatically created by the AFIS system.	D	X					Maintaining the integrity of fingerprint images and data for non-latent print searches is a COTS functionality within the Cogent ABIS.
142.	1	The system shall provide the capability to accept fingerprint images of up to 1.5” x 1.6” in size	D	X					This is a COTS feature of the proposed Cogent ABIS.
143.	1	The system shall provide the capability to accept fingerprint slap images of up to 1" x 1" in size	D	X					This is a COTS feature of the proposed Cogent ABIS.
144.	1	The system shall provide the capability to utilize a multiple threshold scoring system.	D	X					This is a COTS feature of the proposed Cogent ABIS.
145.	1	The system shall provide the capability to represent distinct thresholds.	D	X					This is a COTS feature of the proposed Cogent ABIS.
146.	1	The system shall provide the capability to have a distinct threshold for Criminal, civil, authentication, Autoident criminal Autoident civil, Increase Confidence, and consolidation.	D	X					This is a COTS feature of the proposed Cogent ABIS.
147.	1	The system shall provide the capability to return no more than n matches to a search that exceed the Normal threshold	D	X					This is a configurable feature of the proposed Cogent ABIS.
148.	1	. The default value for n shall be configurable	D	X					This is a configurable feature of the proposed Cogent ABIS.
149.	1	The system shall provide the capability to allow Permitted Users to set n the number of matches for a particular search	D	X					Permitted users have this capability with the Cogent ABIS COTS product.

150.	1	The system shall provide the capability to provide list of matching prints that exceed a Normal threshold value to any of specified workstations not to exceed X.	D	X						Providing a candidate list of matching prints to any specified work station is a functionality of the Cogent COTS ABIS.
151.	1	The system shall provide the capability to identify any search print that had no match as a "no hit" and send the print to the no hit queue	D	X						The Cogent COTS ABIS identifies any search prints that do not match (no hits) and can send the search results to a no hit queue.
152.	1	The system shall provide the capability to compare a search print against any print or set of prints selected by the operator.	D	X						This is a COTS feature of the proposed Cogent ABIS.
153.	1	The system shall provide the capability to allow operators to be able to select prints by name, dle, obts, active/inactive	D	X						This is a COTS feature of the proposed Cogent ABIS.
154.	1	The system shall provide the capability to set thresholds for: • a particular tenprint search • an autoident search • all tenprint searches • a particular batch • a particular submitter • a submitter group • Default values for thresholds shall be configurable	D	X						The threshold requirements described herein are all available as COTS features of the Cogent ABIS proposed for the SFPD.
155.	1	The system shall provide the capability to allow Permitted Users to set thresholds	D	X						This is a COTS feature of the proposed Cogent ABIS.
156.	1	The system shall provide the capability to set the values for the number of match candidates returned for: • a particular tenprint search • an autoident search • all tenprint searches • a particular batch • a particular submitter • a submitter group	D	X						Setting values for the number of match candidates is a configurable capability included in the Cogent COTS ABIS.
157.	1	Default values for the number of match candidates returned shall be configurable	D	X						This is a COTS feature of the proposed Cogent ABIS.
158.	1	The system shall provide the capability to allow Permitted Users to set the number of match candidates returned	D	X						This is a COTS feature of the proposed Cogent ABIS.

159.	1	The system shall add a print to the "no match auto ident queue" if it does not find a match during "auto ident" mode	D	X					This requirement is available in the Cogent ABIS COTS Workstation, however, the COTS queue will require renaming.
160.	1	The system shall provide the capability to automatically resubmit prints from the "no match auto ident queue" as regular ten print submissions, that is not resubmitted as an autoident	D	X					This is a COTS feature of the proposed Cogent ABIS.
161.	1	The system shall provide the capability to allow Permitted Users to resubmit prints in the "no match auto ident queue" as non auto ident search	D	X					This is a COTS feature of the proposed Cogent ABIS.
162.	1	The system shall provide the capability to allow Permitted Users to select any print image in the SFPD ABIS and enter the "visual quality" of that print	D	X					The capability to modify or enter data associated with a fingerprint file in the database is a current Cogent ABIS COTS capability.
163.	1	The system shall provide the capability to allow Permitted Users to select any Livescan submission for "visual quality"	D	X					This is a COTS feature of the proposed Cogent ABIS.
164.	1	The system shall provide the capability to allow Permitted Users to enhance the image	D	X					Enhancing an image using a variety of tools is a COTS feature of the Cogent ABIS. Images enhanced can be saved in the enhanced mode with the orginal being saved as a component of the original NIST transaction.
165.	1	The system shall provide the capability to allow Permitted Users to reset the "visual quality" of any print	D	X					This is a COTS feature of the proposed Cogent ABIS.
166.	1	The system shall provide the capability to allow Permitted Users to save enhanced image with new visual quality value	D	X					This is a COTS feature of the proposed Cogent ABIS, however, it is recommended that the original image as received from the source also be saved . This is also a Cogent COTS feature.
167.	1	The system shall provide the capability to save prints if there is at least one image in the print set	D	X					This is a COTS feature of the proposed Cogent ABIS.
168.	1	The system shall provide the capability to search prints if there is at least one image in the print set	D	X					This is a COTS feature of the proposed Cogent ABIS.
169.	1	The system shall provide the capability to set print "search quality" automatically	D	X					This is a COTS feature of the proposed Cogent ABIS.

170.	1	The system shall provide the capability to prevent users from modifying "search quality"	D	X					The ability to change or modify default search quality settings is configurable and controlled by permissions established by users and controlled through system log on.
171.	1	The system shall provide the capability to allow Permitted operators to set print "visual quality"	D			X			**C** – Customization. The Cogent COTS ABIS does not use "visual quality" as a standard feature, however, this can be provided through minor changes to existing programs and work flow accomplished by a **Cogent** Technician. It is estimated that this effort will require less than **20 hours**. The level of complexity for this effort is **Low**.
172.	1	The system shall provide the capability to indicate which is the highest "visual quality" or "search quality" print from multiple prints from the same subject	D	X					This is a standard Cogent ABIS COTS capability indicated by a numeric score displayed to the operator.
173.	1	The system shall provide the capability to create and display a composite image made from the best "search quality" finger or palm print from multiple prints of the same subject	D	X					The Cogent ABIS proposed for the SFPD will have as a COTS feature the capability to create and display composite finger or palm print image records from multiple sets of prints of the same subject. This COTS feature was first implemented for the LASD AFIS.
174.	1	The system shall provide the capability to create and display a composite image made from the best "visual quality" finger or palm print from multiple prints of the same subject.	D			X			**C** – Customization. The Cogent COTS ABIS does not use "visual quality" as a standard component, however, the ability to create and display a composite image from the best "visual quality" images can be provided through minor changes to existing programs and work flow which will be accomplished by a **Cogent** Technician. This change

									will be made in conjunction with the change for requirement #171. The level of complexity for this effort is **Low**.
175.	1	The system shall provide the capability to send every nth print that is autoidented to a queue for human verification.	D			X			**M** – Modification. This feature is not currently part of the Cogent COTS ABIS. The requirement can be provided with minor work flow modifications made by a **Cogent** Technician. It is estimated that the time needed to make this modification will be less than **10 hours**. The level of complexity for this effort is **Low**.
176.	1	N shall be system configurable	D			X			**M** – Modification. This requirement will be met once the work flow modifications required for the aforenoted (#175) requirement have been completed, and the time estimate for completing this requirement is included in the estimate above. Cogent's level of complexity for this effort is **Low**.
177.	1	The system shall provide the capability to submit prints for search from: • live-scan devices • photocopies • printed copies • photographs • group III or better facsimiles	D	X					This is a COTS feature of the proposed Cogent ABIS.
178.	1	The system shall provide the capability to perform an automated "search quality" check on all print images received .	D	X					This COTS functionality is typically configured as a default for Cogent ABIS users.
179.	1	The system shall provide the capability to reject prints that fail the "search quality" check unless an override with a reason accompanies the prints	D	X					This capability is provided as a COTS feature. The ability to override the search quality reject is a configurable item which can be limited by permissions associated

									with user log-ons.
180.	1	The system shall provide the capability to reject prints for which an image is missing or blank and there is no indication that a finger is amputated or bandaged	D	X					This is a Cogent ABIS COTS component which is configurable according to users' requirements.
181.	1	The system shall provide the capability to reject prints if the images are in the wrong order and the machine cannot automatically reorder with 100% accuracy	D	X					This capability is available as a configurable setting provided in the Cogent ABIS COTS product.
182.	1	The system shall provide the capability to automatically reorder images on print sets	D	X					This functionality is provided through a key stroke or mouse click to a menu option in the current Cogent ABIS COTS Workstation.
183.	1	The system shall provide the capability to notify submitter of a rejection and the reason	D	X					This is a COTS feature of the proposed Cogent ABIS.
184.	1	The system shall provide the capability to delete all images and text data for rejected prints	D	X					This is a COTS feature of the proposed Cogent ABIS.
185.	1	The system shall provide the capability to prevent the acceptance of NIST packets that do not contain actual images of prints (have minutia or characteristics only).	D	X					This is a COTS feature of the proposed Cogent ABIS.
186.	1	The system shall provide the capability to resubmit a subject with finger images different from those selected on the previous search	D	X					This is a COTS feature of the proposed Cogent ABIS.
187.	1	The system shall provide the capability for Permitted Users to submit a print for comparison against a specific subject/subjects	D	X					This is a COTS feature of the proposed Cogent ABIS.
188.	1	The system shall provide the capability to search new criminal prints automatically against non-criminal search spaces or special search spaces	D	X					This is a COTS feature of the proposed Cogent ABIS.
189.	1	The default non-criminal search spaces or special search spaces shall be configurable	D	X					This is a COTS feature of the proposed Cogent ABIS.
190.	1	The system shall provide the capability to allow Permitted users to select non-criminal search spaces or special search spaces	D	X					This is a COTS feature of the proposed Cogent ABIS.
191.	1	The system shall provide the capability to submit a search for identification but not allow the print to be added to the database. This capability is called "Identify Only"	D	X					"Search Only" or "Identify Only" capabilities are features of the Cogent ABIS COTS product.
192.	1	The system shall provide the capability to add a print to the AFIS database if the print does not match any print in the database and the print is not "identify only".	D	X					This is a COTS feature of the proposed Cogent ABIS.

193.	1	The system shall provide the capability to automatically determine that a search results in an ident without human verification if its matching score is above an Autoident threshold This capability is called Autoident Mode	D	X					This Cogent ABIS COTS capability is currently used by several Cogent users including the Los Angeles County Sheriff's Department and Fresno County Sheriff's Department.
194.	1	The system shall provide the capability to search the entire selected search space in Autoident Mode.	D	X					This is a COTS feature of the proposed Cogent ABIS.
195.	1	The system shall provide the capability to send matches to the verification queue if multiple matches are found in Autoident Mode.	D	X					This is a COTS feature of the proposed Cogent ABIS.
196.	1	The system shall provide the capability to select print types eligible for Autoident Mode	D	X					This is a COTS feature of the proposed Cogent ABIS.
197.	1	The system shall provide the capability to allow the following types of prints as eligible for Autoident Mode: • authentication • civil/print • criminal • specific • specific agency	D	X					This is a COTS feature of the proposed Cogent ABIS.
198.	1	The system shall provide the capability to send every nth print that is Autoidented to a queue for human verification.	D			X			**M** – Modification. This requirement is not currently a Cogent COTS feature, but will be provided at the same time the modifications and changes are made for compliance with the aforenoted requirement #175. **Cogent**'s level of complexity for this effort is **Low**.
199.	1	N shall be system configurable	D			X			**C** – Customization. This requirement will be met as the minor work flow modifications needed for compliance to requirements #175 and #198 are made by a **Cogent** Technician. The level of complexity for this effort is **Low**.
200.	1	The system shall provide the capability to automatically add more fingers to the search print until the fused score exceeds the match threshold or all finger images have been exhausted. This capability is called "Increased Confidence"	D			X			**C** – Customization. This feature as described is not currently a Cogent ABIS COTS component since the

		Mode.							Cogent ABIS automatically selects the best four fingers to search, adding additional fingers with lower quality would have little effect on improving the search results. Providing this feature will require custom code development and changes to current programs. **Cogent** engineers will meet with the SFPD during the detail design phase of the project in order to get a better understanding of the requirement and desired results. As currently understood, meeting this requirement has a **medium** level of complexity, requiring approximately **40 hours** for development, testing and installation.
201.	1	The system shall provide the capability to automatically determine if prints are out of order (e.g. finger order, hand order, palm order)	D	X					This is a COTS feature of the proposed Cogent ABIS.
202.	1	The system shall provide the capability to report to SFPD TBD when prints are out of order.	M	X					Cogent ABIS COTS Mangement reports provide the "Prints out of Order" data.
203.	1	The system shall provide the capability to calculate statistics for prints out of order (e.g. how many overall, which user)	D	X					Cogent ABIS COTS Mangement reports provide the ability to calculate this data and report same to authorized requestors.
204.	1	The system shall provide the capability to report statistics on prints out of order	D	X					Cogent ABIS COTS Mangement reports provide this data and report same to authorized requestors.
205.	1	The system shall provide the capability to allow Permitted Users to request reports on prints out of order	D	X					Cogent ABIS COTS Mangement reports provide this data and report same to authorized requestors.
206.	1	The system shall provide the capability to check print order before submitting prints for search	D	X					This is an automatic function of the proposed Cogent ABIS search process.
207.	1	The system shall provide the capability to automatically reject a search if the prints are out of order	D	X					The Cogent COTS ABIS is configurable so that incoming

									transactions with prints out of order are either rejected and returned to the submitter, or sent to a problem resolution queue for an operator to correct and resubmit for search.
208.	1	The system shall provide the capability to automatically send rejected searches to an error resolution queue	D	X					The Cogent COTS ABIS is configurable so that incoming transactions with prints out of order are either rejected and returned to the submitter, or sent to a problem resolution queue for an operator to correct and resubmit for search.
209.	1	The system shall provide the capability to allow Permitted Users to request a check of print order on a subjects prints	D	X					The Cogent COTS ABIS automatically checks all incoming subject fingerprints to verify that the prints are in the proper order, and a COTS feature is the ability for an operator to relaunch the search including a recheck of the print order.
210.	1	The system shall provide the capability to allow Permitted Users to reorder prints	D	X					This is a COTS feature of the proposed Cogent ABIS.
211.	All	The ABIS shall automatically refresh the Work Queues as transactions are completed from the queues.	D	X					The ability to refresh queues is configurable and can either be automatic or accomplished with a single mouse key stroke.

	Requirement Type – Latent Requirements								
212.	1/2	The system shall provide the capability to identify whether a latent is a “quality latent” or a non “quality latent”	D	X					The Cogent ABIS identifies the latent quality and displays the quality as a numerical value to operators.
213.	1/2	A “quality latent” shall be a latent that has a better than average chance of finding a match if mate is in search space	D	X					The Cogent ABIS designates quality through the use of numeric values displayed to the latent examiners.
214.	1/2	The system shall provide the capability to automatically calculate “quality latent” after minutia are entered on a latent	D	X					This is a COTS feature of the proposed Cogent ABIS.

215.	1/2	The system shall provide the capability to allow a Permitted user to display the number of minutia on a latent	D	X					This is a COTS feature of the proposed Cogent ABIS.
216.	1/2	The system shall provide the capability to allow a Permitted user to display whether a latent is a “quality latent” or a non “quality latent”	D	X					The Cogent ABIS provides this capability by displaying the numerical values as described in requirement 212 above.
217.	1/2	The system shall provide the capability to set the latent search space independent of other search spaces	D	X					This Cogent ABIS COTS function is provided through the use of a “Search Parameter” screen which permits operators to set the latent search space.
218.	1/2	The system shall provide the capability to set the latent search space independently for each latent submission	D	X					This capability is a Latent COTS function which allows operators to process a latent individually or in batch mode.
219.	1/2	The default latent search space shall be configurable	D	X					The Cogent COTS default for latent searching is 100% database penetration, with the option for users to configure the work flow so that only specific areas (spaces) within the database are searched.
220.	1/2	The system shall provide the capability to allow Permitted Users to specify the latent search space	D	X					The Cogent COTS default for latent searching is 100% database penetration, with the option for users to configure the work flow so that only specific areas (spaces) within the database are searched.
221.	1/2	The system shall provide the capability to return no more than n candidates for a latent search	M	X					This COTS capability is configurable. SFPD requirements will be used during system detail design to determine the default setting.
222.	1/2	The system shall provide the capability to return candidates in order of most probable match	M	X					This is a COTS feature of the proposed Cogent ABIS.
223.	1/2	The default value n for the number of candidates returned for latent search shall be a configurable item	D	X					This COTS capability is configurable. SFPD requirements will be defined during system detail design to determine the default setting.

224.	1/2	The system shall provide the capability to set n the number of candidates returned independently for each latent submission	D	X					This capability is provided to Cogent ABIS operators through use of a pop-up window which allows operators the option to set the number of candidates as described in the requirement.
225.	1/2	The system shall provide the capability to allow Permitted Users to specify n, the number of candidates returned	D	X					This capability is provided to Cogent ABIS operators through use of a pop-up window which allows operators the option to specify the number of candidates as described in the requirement.
226.	1/2	The system shall provide the capability to detect when a latent submission represents a crime whose statute of limitations is "imminent"	D			X			**M** – Modification. A latent functionality similar to this requirement is currently being used by Houston, Texas. Minor modifications to the existing tables because of different statute of limitations will be completed by **Cogent** Technicians will provide this desired requirement. It is estimated that the required modifications will be completed in less than **10 hours**. The level of complexity for this effort is **Low**.
227.	1/2	The system shall provide the capability to determine if a latent is "imminent" by determining n, the number of days remaining before the statute of limitations expires	D			X			**M** – Modification. As noted in the answer for requirement number #226, this requirement will be met through minor modifications made by **Cogent** Technicians to existing tables. The time required for these modifications are included in the time allocated for modifications to requirement #226. The level of complexity for this effort is **Low**.
228.	1/2	n, the number of days remaining before the statute of limitations expires shall be configurable	D			X			**M** – Modification. As noted in the answer for requirement #226, this requirement will be met through minor modifications made by **Cogent**

									Technicians to existing tables. The time required for these modifications are included in the time allocated for modifications to requirement #226. The level of complexity for this effort is **Low**.
229.	1/2	The system shall provide the capability to calculate once per n days if a latent is "imminent"	D			X			**M** – Modification. As noted in the answer for requirement #226, this requirement will be met through minor modifications made by **Cogent** Technicians to existing tables. The time required for these modifications are included in the time allocated for modifications to requirement #226. The level of complexity for this effort is **Low**.
230.	1/2	n the number of days between calculating that a latent is imminent shall be configurable	D			X			**M** – Modification. As noted in the answer for requirement #226, this requirement will be met through minor modifications made by **Cogent** Technicians to existing tables. The time required for these modifications are included in the time allocated for modifications to requirement #226. The level of complexity for this effort is **Low**.
231.	1/2	The system shall provide the capability to notify appropriate submitters when a latent submission represents a crime whose statute of limitations is "imminent"	D	X					Messages as described herein, as well as other ABIS related messages, are processed using the Cogent COTS Active Directory function. Specific messge wording will be developed during the system detail design phase.
232.	1/2	The system shall provide the capability to notify appropriate submitters when a latent print or associated data is deleted	D	X					Messages as described herein, as well as other ABIS related messages, are processed using the Cogent COTS Active Directory function.

233.	1	Latent fingerprint processing shall search the entire target database consisting of the rolled and plain fingers from the composite and each Most Recent Entry (MRE).	M	X					The Cogent COTS ABIS fingerprint process uses 100% penetration of the entire ABIS database. There is no binning in the Cogent COTS solultion, although this can be provided if desired.
234.	2	All known Palm Print submissions shall automatically be searched against the Unknown Latent Palm Print File (TPP/ULPP).	M	X					This is a COTS feature of the proposed Cogent ABIS.
235.	2	Palm Print submissions shall be updated to the corresponding target database.	M	X					The Cogent ABIS processes Palmprints into a Palmprint segment of the ABIS database.
236.	1/2	ABIS shall accept and store Latent print images in commonly accepted resolution at or above 500 ppi in accordance with the ANSI/NIST-ITL-1-2007.	M	X					This is a COTS feature of the proposed Cogent ABIS.
237.	1/2	ABIS shall provide encoding and searching of Latent print transactions at 500 ppi if received at 500 ppi against a target database which is mixture of 1000ppi and 500ppi.	M	X					This is a COTS feature of the proposed Cogent ABIS. This functionality is currently a component of the Cogent ABIS's installed in the State of Maryland, Kern County, CA., and Fresno County, CA.
238.	1/2	ABIS shall accept and store Latent print images at 1000 ppi in accordance with the ANSI/NIST-ITL-1-2007.	M	X					This is a COTS feature of the proposed Cogent ABIS.
239.	1/2	ABIS shall store the latent (both fingerprint and Palmprint) minutiae data encoded manually and / or automatically in ANSI-NIST-ITL-2007 Type open standard format in INCIT 378 and the NIST CDEFFS (Committee on the Definition of Extended Fingerprint Features). The offeror shall outline all the specific CDEFFS data fields supported by their ABIS. The records will be verified during the acceptance plan for compliance and correctness. The stored NIST standard compliant fingerprint and Palmprint latent feature template records shall be accessible/readable by SFPD.	M	X					This is a COTS feature of the proposed Cogent ABIS. The following specific CDEFFS data fields are supported: 1) Minutia data 2) Core position 3) Delta position 4) Ridge Count data 5) Pattern Classification 6) Region of value polygon The stored NIST complaint fingerprint and palmprint latent feature records will be accessible and/or readable by SFPD.

240.	1/2	ABIS shall provide encoding and searching of Latent print transactions at 1000 ppi if received at 1000 ppi against a target database which is mixture of 1000ppi and 500ppi.	M	X					This is a COTS feature of the proposed Cogent ABIS.
241.	1/2	ABIS shall enable a Latent Print Examiner to launch a Latent print search from these images.	M	X					The Cogent ABIS processing enables Latent Print Examiners to launch latent prints at either 500 or 1000 ppi. It is assumed that the term "these images" refers to search images at either 500ppi or 1000ppi.
242.	1/2	ABIS shall accept at least one standard image file format such as bitmap and tiff. The image file must be a lossless format.	M	X					The Cogent ABIS "File Import" function enables Latent Print Examiners to import image files in all standard image file formats.
243.	1/2	ABIS shall create an FBI EBTS compliant Latent print feature search transactions file.	M	X					Cogent ABIS Latent Print Examiners are able to create FBI EBTS compliant latent features using the ULW command.
244.	1/2	ABIS shall have an alpha numeric Latent print image identifier to be entered by the Latent Print Examiner. The Latent print image identifier will be the same for each unique Latent print image across all searches of that image in the case.	M	X					During the Cogent ABIS Latent work flow Alpha numeric Latent print identifiers are entered at the same time latent demographic information is entered, and these identifiers become a part of the image file.
245.	1/2	The Latent Search ID shall allow up to ten characters and be fully editable by the Latent Print Examiner. The Latent Search Id must be unique within a Latent Case Number.	D	X					The data field length for a latent search ID is configurable and will allow for 10 or more characters, and is unique within a Latent Case number as desired.
246.	1/2	ABIS shall maintain the original and clarified version of a Latent print image and allow both to be used when making comparisons to candidates.	D	X					This is a COTS feature of the proposed Cogent ABIS.
247.	1/2	The search filters shall at a minimum include options on finger number or palm position, segmented palm areas (if applicable), sex, race, county, region, crime type and Latent search eligible civil records. If the Prime/Prime Offeror's system uses fingerprint patterns then there shall be the option to include fingerprint pattern as a filter.	M			X			**G** – Configuration. The search filters mandated by this requirement, as well as Manual or Automatic Core placement, are all available in the Cogent ABIS being proposed for the SFPD. Since the Cogent COTS ABIS uses 100% penetration as a default,

									which has shown during industry tests and benchmarks in various locations including, RCMP, Maryland, and Spain and demonstrations that this results in increased hits and accuracy. Cogent has continually placed number 1 in these benchmark tests Cogent does not recommend the use of any filtering. Likewise, the Cogent COTS ABIS does not require/use fingerprint patterns in the search process. Should the SFPD desire the option to use filtering in the ABIS search process, this can be provided and would only require minor changes to settings and tables by **Cogent** Technicians. It is estimated that this effort will require less than **30 hours** to implement. The level of complexity for this effort is **Low**.
248.	1/2	ABIS shall allow a Latent Print Examiner to search unsolved Latent fingerprint images against the Unsolved Latent Fingerprint Database. LFP/ULFD	M	X					This is a COTS feature of the proposed Cogent ABIS.
249.	1/2	ABIS shall allow a Latent Print Examiner to search unsolved Latent palm print images against the Unsolved Latent Palm Database. LPP/ULPD	M	X					This is a COTS feature of the proposed Cogent ABIS.
250.	1/2	ABIS shall allow the Latent Print Examiner to mark a Latent print image as either finger or palm. ABIS shall use this designation to search the appropriate target database.	M	X					The mandated requirement to mark a Latent print as either a palm or finger and to use the designation to search the appropriate database is available as a COTS feature of the Cogent ABIS proposed for the SFPD.
251.	1/2	ABIS shall enable a Latent Print Examiner to select a 360 degree orientation search.	M	X					This is a COTS feature of the proposed Cogent ABIS.
252.	1/2	ABIS shall enable a Latent Print Examiner to segment individual finger print images from a cluster and individually encode one or more Latent print images.	M	X					This is a COTS feature of the proposed Cogent ABIS.
253.	1/2	The Latent Print Examiner shall be able to indicate the pattern of each individual image in the cluster whether or not the individual Latent print image is used in the search.	M	X					Indicating pattern types of individual latent print images as described is a COTS feature.

254.	1/2	ABIS shall allow for automatic and manual encoding of Latent print image features and the retention of such image features.	M	X					This is a COTS feature of the proposed Cogent ABIS.
255.	1/2	ABIS shall allow a Latent Print Examiner the option to reuse the encoding from one search when additional searches of the same image are performed using different search parameters.	M	X					This is accomplished in the Cogent COTS ABIS without the need to rescan the images.
256.	1/2	ABIS shall automatically assign to each Latent print image search a search creation date equal to the present date.	M	X					This is a COTS feature of the proposed Cogent ABIS.
257.	1/2	ABIS shall enable the Latent Print Examiner performing the encoding to change the parameters of a search, add a new search, and delete a specific search.	M	X					The Cogent COTS ABIS displays a pop up window containing a check list of search parameters which latent print examiners check prior to launching the latent for search.
258.	1/2	ABIS shall provide a single entry screen to support modification of descriptors, data fields, and parameters for search.	D	X					These features are also provided for in the Cogent ABIS through use of a pop up window.
259.	1/2	ABIS shall enable a Latent Print Examiner to add, edit, and delete automatically or manually encoded features from Latent print images.	M	X					This is a COTS feature of the proposed Cogent ABIS.
260.	1/2	ABIS shall enable the Latent Print Examiner the option to save any Latent search to the ULFD/ULPD or to discard the Latent print image search.	D	X					This is a COTS feature of the proposed Cogent ABIS.
261.	1/2	ABIS Latent search results shall not include a candidate marked as Latent Search Ineligible (information supplied from SFPD (CCH)CABLE), Need Message Format Table, from CABLE here).	M	X					The ability to block certain search responses is an option available to Cogent ABIS operators. Information describing the messge format table from the SFPD CABLE will need to be provided during the detail design phase of the SFPD ABIS project.
262.	1/2	ABIS shall enable a Latent Print Examiner to perform at the workstation a side by side evaluation of a Latent print image record and an image of a known suspect by entering the suspect SF# as the candidate.	M	X					The Cogent COTS ABIS latent work flow provides operators the option to enter demographic data which the ABIS uses to display database file prints.
263.	1/2	The Latent Print Examiner shall have the option to perform a TP/ULFD or a PP/ULPD search with the suspect image(s.) This search is performed when a suspect name and/or SF# is provided by the submitting agency and the SF# Tenprint or Palm print record is searched against the appropriate target database.	M	X					The Cogent COTS ABIS latent work flow provides operators the option to enter demographic data which the ABIS uses to display database file prints.

264.	1/2	ABIS shall perform the selection of Latent print candidates above the site's Candidate Threshold.	D	X					The Cogent ABIS uses a configurable default threshold setting which is established by the users for selecting Latent print candidates.
265.	1/2	Post search, when a Latent Print Examiner is reviewing search results, ABIS shall enable the Latent print examiner to select a view of a top number of candidates.	D	X					This is a COTS feature of the proposed Cogent ABIS.
266.	1/2	The candidate list shall display, at a minimum, the Latent print Case Number, Latent print image identifier, search parameters, and each candidate SF#.	D	X					The data fields desired, as well as others from a predetermined list, which may be defined during the detail design phase of the project, will be displayed to the latent print examiners.
267.	1/2	ABIS shall rank and display the candidate list in the order of most likely to least likely match.	M	X					This is a COTS feature of the proposed Cogent ABIS.
268.	1/2	When performing side by side image comparison in both the Evaluation and Verification process, ABIS shall provide the Latent Print Examiner the ability to print the biographic data of an individual candidate who appears in the search result candidate list.	M	X					This is a COTS feature of the proposed Cogent ABIS.
269.	1/2	ABIS shall not display any biographic data on a candidate, such as name. The candidate shall be specified to the Latent Print Examiner only by the SF# number and any search parameter data.	D	X					This is a configurable Cogent ABIS COTS feature, allowing the user to define which biographic data (if any) will be displayed to latent print examiners, as well as any search parameters used.
270.	1/2	ABIS shall include on the candidate list the matching finger number.	M	X					This is a COTS feature of the proposed Cogent ABIS.
271.	1/2	ABIS shall not display the ABIS score on the evaluation user interface.	M	X					While most current Cogent ABIS users have elected to display the ABIS score, this option can be blocked from view of the operator.
272.	1/2	ABIS shall return the search results automatically to the same Latent Print Examiner that initiated and launched the search unless the Latent Print Examiner has specified otherwise	M	X					This requirement is met through the use of permissions established during operator log on to the ABIS.
273.	1/2	ABIS shall inform each verifier when their indications are not all the same and allow each to reevaluate their indication. The process will not be completed until all indications agree. ABIS shall enable a verifier to forward a Latent print to a	D	X					This is a COTS feature of the proposed Cogent ABIS.

		supervisor or to another Latent Print Examiner when the verification cannot be confirmed. The supervisor will have the final determination.							
274.	1/2	ABIS shall provide a side by side view of the Latent print image along with the corresponding search candidate's fingerprint or palm print image area to support evaluation.	M	X					This is a COTS feature of the proposed Cogent ABIS.
275.	1/2	ABIS shall display the Latent print image beside the candidate image at the same size and scale.	M	X					This is a COTS feature of the proposed Cogent ABIS.
276.	1/2	ABIS shall enable the display of the Latent and candidate images at the same orientation based on ABIS's correlation of print image features.	M	X					This is a COTS feature of the proposed Cogent ABIS.
277.	1/2	ABIS shall enable the toggling on and off of the display of minutiae for the Latent and candidate print images.	M	X					This is a COTS feature of the proposed Cogent ABIS.
278.	1/2	ABIS shall enable the Latent Print Examiner to place their own markers on the Latent and candidate images. Markers shall be editable (placed or removed) with the ability to be toggled on and off.	M	X					Latent Print Examiners using the Cogent COTS ABIS are able to highlight minutia, or place or remove markers on either search or file print images and have the minutia or marker be displayed or removed on the corresponding file or search print.
279.	1/2	ABIS shall forward all Latent print searches that have been evaluated to the Latent Print Examiner assigned to a verifier role for further processing.	D	X					The Cogent COTS ABIS allows print search result to be evaluated by more than one verifier for further processing.
280.	1/2	ABIS shall provide a means for the verifying Latent Print Examiner to indicate an identification, non-identification, or inconclusive result to a search candidate by a single action with a confirmation step.	M	X					This functionality is a Cogent ABIS COTS feature, although Cogent uses the letter "U" which stands for "unknown". This is the same meaning as the word "inconclusive" in the requirement
281.	1/2	Upon a verifying Latent Print Examiner indicating identification, ABIS shall automatically create a printable "screen image" as a locked comparison quality image that combines the submission Latent search image and corresponding candidate search image as viewed at the time of verification.	M	X					This is a COTS feature of the proposed Cogent ABIS.
282.	1/2	The printable screen image from a verifying Latent Print Examiner's identification, will contain, in addition to the images, the following information: the user ID of the verifying Latent Print Examiner, device on which the verification took place, verified SF#, Latent case number, submission Latent print image,	M	X					The printable screen image component of the Cogent COTS ABIS provides for all the required data fields as well as others, including

		Tenprint file fingerprint image, palm hand or specific palm area, image name, date and time verification occurred.							agency name.
283.	1/2	ABIS shall enable a Latent Print Examiner to print the evaluation or verification side by side comparison screen image. This shall be printed at the highest resolution available for the printer. See http://www.fbibiospecs.org/fbibiometric/docs/EBTS%20V8.002%2010-24-07.pdf	M	X					This is a COTS feature of the proposed Cogent ABIS.
284.	1/2	When a TP/ULFD search result is being viewed, ABIS shall display at workstation evaluation verification time, all Latent case numbers related to the same search.	M	X					This is a COTS feature of the proposed Cogent ABIS.
285.	1/2	When a Palm print transaction is tentatively identified to a Latent Palm print image(s) stored in the Unsolved Latent Palm print database as a result of a PP/ULPD search, ABIS shall display all Latent case numbers related to the same search.	D	X					This is a COTS feature of the proposed Cogent ABIS.
286.	1/2	When a Latent print search results in non-identification and the Latent Print Examiner has indicated the search retention Expiration Date, ABIS shall automatically retain the image on the ULFD or ULPD with the Expiration Date.	D	X					This is a COTS feature of the proposed Cogent ABIS.
287.	1/2	ABIS shall allow a single case to be searched autonomously by multiple Latent Print Examiners. Each search shall be saved separately with the same case number but distinguished by differing originating Latent Print Examiner.	D	X					The described work flow is a COTS feature of the proposed Cogent ABIS.
288.	1	When saving a Latent Fingerprint (LFP) image to the Unsolved Latent Fingerprint Database (ULFD,) ABIS shall allow a Latent Print Examiner to select which future Non-Identified Tenprint (TP) transactions shall trigger searches against the saved Latent Fingerprint image (TP/ULFD.) These search filters may include but not be limited to crime type, county, region, sex, race and can be changed by the initiating/owning Latent Print Examiner at anytime.	D			X			**C** – Customization. The desired requirement as listed will necessitate minor modifications made to COTS tables and the COTS work flow. These changes will be made by a qualified **Cogent** Technician. The time needed to accomplish these changes is estimated to be less than **15 hours**. Changes to the Cogent ABIS source code are NOT necessary to meet this requirement. The level of complexity for this effort is **Low**.
289.	2	When saving a Latent Palm print (LPP) image to the Unsolved Latent Palm print Database (ULPD,) ABIS shall allow a Latent Print Examiner to select which future Non-Identified Palm print (PP) transactions shall trigger searches against the saved Latent Palm print image (PP/ULPD.) These search filters may include but not be limited to crime type, county, region, sex and can be changed by the	D			X			**C** – Customization. As stated in the comments to requirement #288 above, the desired requirement as listed will necessitate some minor changes made to COTS tables and the COTS work

		initiating/owning Latent Print Examiner at anytime.							flow. These changes will be made by a qualified **Cogent** Technician. The time needed to accomplish these modifications is estimated to be less than **15 hours**. Changes to the Cogent ABIS source code are NOT necessary to meet this requirement. The level of complexity for this effort is **Low**.
290.	1/2	When saving the latent fingerprint and Palmprint images to the ULFD and ULPD, the images shall be compressed by lossless compression only. The images in the ULFD and ULPD shall be accessible by SFPD.	M	X					This is a configurable option available with the Cogent COTS ABIS. Although most Cogent ABIS user agencies have chosen not to compress images saved in the Unsolved Latent and Unsolved Palm databases, compression using lossless WSQ can be provided with minor modifications to the default COTS work flow. Images saved and/or stored in the ABIS will be in NIST format and accessible to the SFPD, and/or any other authorized agencies.
291.	1	ABIS shall perform the selection of TP/ULFD search candidates above a selectable Candidate Score Threshold or other search System Hit Parameters.	D	X					Candidate score threshold and/or other system hit parameters are configurable and established during system detail design.
292.	1	The verification process of a Tenprint image searched against the Unsolved Latent Fingerprint Database (TP/ULFD) shall be uniform with the verification process of a Latent Print Fingerprint image searched against the Tenprint Database (LFP/TPDB).	D	X					The Cogent ABIS COTS search results screen are identical for both types of searches.
293.	1/2	ABIS shall not automatically determine identification or non-identification on a TP/ULFD search candidate.	M	X					Although the ability for the Cogent COTS ABIS to automatically identify (or non-identify) tenprint to unsolved latent print searches exists, and is a feature being contemplated for use by some Cogent ABIS users, this would not be an automatic feature of the

									SFPD ABIS unless so requested at some future date.
294.	1/2	Upon receipt of a Latent print search cancellation request, ABIS shall cancel the search request and delete the search details from ABIS.	D	X					The ability to delete search details from a Cogent ABIS is typically only provided to users with delete permissions.
295.	1/2	Prior to purging an image from the ULFD or ULPD, whether by expiration date or a request to purge, a purge request confirmation message must be sent to and acknowledged by the case owner before purge completion. Once the purge has been completed, an additional acknowledgement narrative message shall be displayed.	M	X					Messages as described herein, as well as other ABIS related messages, are processed using the Cogent COTS Active Directory function.
296.	1/2	ABIS shall enable a site to purge only those searches in the ULFD/ULPD that were added by Latent Print Examiners within their responsibility.	M	X					This Cogent ABIS COTS function is provided for through the use of permissions established during operator log on to the system.
297.	1/2	ABIS shall ensure each new ULFP/ULPD image be registered with an Expiration Date.	D	X					This is a COTS feature of the proposed Cogent ABIS.
298.	1/2	ABIS shall use an indefinite retention – expiration date of 9999-99-99 or other specific setting to indicate that the entry shall not be automatically purged.	D	X					The specific setting requested by the SFPD will be determined during system detail design and is a configurable feature of the Cogent COTS ABIS.
299.	1/2	The expiration date shall only be amendable by the Latent print case owner.	D	X					This is a COTS feature of the proposed Cogent ABIS.
300.	1/2	ABIS shall provide a process for batch updating of electronic Latent fingerprint and/or palm print images to the appropriate Unsolved Latent file/database after the initial conversion phase has been concluded and the ABIS is in production.	D	X					The Cogent COTS ABIS will provide for the updating of data and images (in NIST format) to the appropriate database as requested.
	Requirement Type – Xeneral Workstation Functionality								
301.	1/2	All workstations shall be equipped with a color display screen, mouse and standard keyboard	M	X					Color display monitors, mouse and standard keyboards are all included with Cogent COTS workstations
302.	1/2	All workstations shall be equipped with the appropriate Network Interface Card to allow them to connect to the SFPD LAN	M	X					This is a COTS feature of the proposed Cogent ABIS.

303.	1/2	All workstations shall be equipped with a suite of Office Productivity software such as Microsoft Office or Corel Office suite to be determined during phase 2	M	X					Either the Microsoft Office suite or the Corel Office suite may be installed on Cogent ABIS workstations, depending on agency preference.
304.	1/2	All workstations shall provide access to a printer	M	X					This is a COTS feature of the proposed Cogent ABIS.
305.	1/2	Workstations shall allow selection of the next available transaction in a queue with a single mouse click or key press.	D	X					The Cogent Transaction Queue Management COTS component provides for this requirement with a single mouse click or key press.
306.	1/2	Workstations shall display counters listing the number of transactions by priority in all queues.	D	X					This capability is available for all queues displayed, including number of transactions by priority, as a COTS capability of the Cogent ABIS.
307.	1/2	Workstations shall have selection filter options for each queue based on, but not limited to: Identification Technician/Latent Print Examiner; Processing Status; Transaction Priority (by one or more selectable priorities); Receipt Date/Time; TCN/Case Identifier; Latent Print Image Identifier.	D	X					Cogent COTS Workstations can be configured with selection filters on each queue. The desired filter options listed in the requirement are current standard filter options.
308.	1/2	Workstations shall have a sort functionality for each queue based on, but not limited to: Identification Technician/Latent Print Examiner, Processing Status; Transaction Priority (by one or more selectable priorities); Receipt Date/Time; TCN/Case Identifier.	D	X					Cogent COTS Workstations provide sort functionalities for each queue as listed in the requirement, as well as other categories such as Transaction Type, AFIS Number, and Subject Number.
309.	1/2	The workstation shall enable an examiner to scroll forward and backward through the search result candidate list.	D	X					This is a COTS feature of the proposed Cogent ABIS.
310.	1/2	The Identification Technician\Latent Examiner shall have image clarification and feature tools available on each screen, where applicable. They shall include, but not be limited to: Adjustable minutiae quality threshold, remove minutiae, add/remove scaling, restore enhanced image, reverse video, gradient ridge detection– including a minimum of four directional angles to select, save image enhancement, undo, zoom, axis, add minutiae, auto enhancement, automatic coding, brightness, contrast, change scale, create area (select an area to enlarge), delete all minutiae, delete minutiae in a selected area, display original image, history of changes made, and hide/display minutiae toggle, auto position, double	D	X					The Image Clarification and feature tools listed in the desired requirements are all available on the Cogent ABIS Workstation as COTS.

		cursor, erase mark, add mark, image flip, histogram view, associated minutiae matching, rotation of search and candidate images.							
311.	1/2	A print function, using a single mouse click or key press for all screens, shall be provided by the Offeror.	M	X					This is a COTS feature of the proposed Cogent ABIS.
312.	1/2	Image override indicators passed to the ABIS system from SFPD shall be displayed to Identification Technicians on all screens where the image is displayed. These overrides shall include, but not be limited to: Amputated, Sequence, Best, and Bandaged.	D	X					Image overrides as defined and received by the Cogent COTS ABIS are available for display to Identification Techs.
313.	1/2	Non-Rejectable indicator, as determined by SFPD, shall be displayed per transaction to the Identification Technician throughout the pre search process.	D	X					While it is not entirely clear what SFPD is referring to as "Non-Rejectable Indicators", however, the Cogent COTS ABIS Workstations currently display Type II NIST data. The assumption is made herein that SFPD "Non-Rejectable Indicators" refer to Type II NIST Data.
314.	1/2	The Identification Technician shall have the ability to select or deselect a finger as missing throughout the pre search process.	D	X					This is a COTS feature of the proposed Cogent ABIS.
315.	1/2	The Identification Technician shall have the ability to select multiple reject reasons throughout the process. SFPD will define the reject reasons.	D	X					This is a COTS feature of the proposed Cogent ABIS, although it may be necessary for a Cogent Technician to add SFPD specified reject reasons or to remove default COTS reasons to/from exsiting tables. Making these table changes is a minor effort routinely accomplished by Cogent Technicians.
316.	1/2	An Identification Technician shall have the option to reject a transaction at any point during the pre search processing. A reason(s) for this rejection must be selected by the Identification Technician.	D	X					Compliance with this requirement is met through ID Techs selecting the rejection reason from on screen menu options.
317.	1/2	An Identification Technician\Latent Print Examiner shall have the option to undo work performed on any transaction, with a confirmation step, without saving changes.	D	X					This is a COTS feature of the proposed Cogent ABIS.
318.	1/2	Several views shall be available for Identification Technicians for each transaction throughout the pre search process. These views shall include, but not be limited	D	X					The desired views as described herein are available to Identification Technicians in several Pre-process

		to: • All plain fingerprint images and rolled fingerprint images on one screen, • all rolled fingerprint images on one screen, • all plain fingerprint images on one screen, • individual rolled fingerprint image and the corresponding plain fingerprint image on one screen, • enlarged individual rolled fingerprint image on one screen, • biographic data and signature on one screen.							screens (views) including the "Manual Cut", "Out of Sequence" and "Quality Assurance" screens.
319.	All	The workstation shall include a high-resolution color screen with a minimum resolution of 1000ppi	D	X					High resolution workstation color monitors with minimum resolution of 1000ppi will be provided to the SFPD.
320.	All	The size of the workstation screen shall be no less than 21 inches	D	X					Work station monitors provided to the SFPD by Cogent will have a screen image area larger than 21 inches.
321.	1/2	The workstation shall include or provide access to a digital camera administered by the SFPD latent section with a minimum resolution of 1000ppi and 256 levels of grayscale	M	X					This will be provided as required.
322.	1/2	All workstation shall provide the capability to accept input from SFPD latent administered digital cameras	D	X					This capability will be provided as required.
323.	1/2	The workstation shall include or provide access to a flatbed scanner administered by the SFPD latent section with a minimum resolution of 1000dpi and 256 levels of grayscale	M	X					Cogent will provide FBI Certified flatbed scanners with a resolution as required.
324.	1/2	The workstation shall provide the capability to accept input from SFPD latent flatbed scanners.	M	X					The ABIS proposed by Cogent for the SFPD will accept input from SFPD latent flatbed scanners.
325.	1/2	The workstation shall include or provide access to a printer administered by the SFPD latent section with a minimum resolution of 1000dpi and 256 levels of grayscale.	M	X					FBI certified printers will be provided with resolution of 1000dpi and 256 levels of grayscale.
326.	1/2	The workstation shall include a drawing tablet and stylus	D	X					The Cogent ABIS proposed for the SFPD will include a drawing tablet and stylus as requested.
327.	1/2	All workstation shall provide the capability to accept input from included drawing tablet and stylus	D	X					All workstations provided in this procurement will have the capability to accept input from various sources

									including drawing tablet and stylus.
328.	1/2	The workstation shall provide the capability to allow Permitted users the ability to request all image changes to a latent and their associated history.	D	X					This is a COTS feature of the proposed Cogent ABIS available through the audit trail log files maintained by the ABIS.
329.	All	The workstation shall provide the capability to allow split screen usage with side by side viewing of user selected images on the same screen	D	X					This is a COTS feature of the proposed Cogent ABIS.
330.	All	The workstation shall provide the capability to allow Permitted users the ability to read and display any ANSI/NIST transaction, including ten-print search records with mug shots	D	X					This is a COTS feature of the proposed Cogent ABIS.
331.	1/2	The workstation shall provide the capability to allow Direct Latent capture, photographs, copies, and direct Latent Lifts as acceptable inputs to the scanner and digital camera	M	X					The Cogent ABIS Latent Workstation provides for Direct Latent Capture as a COTS capability.
332.	1/2	The mechanisms for placing, holding and removing the inputs to the scanner and digital camera shall not damage the original	M	X					This is a COTS feature of the proposed Cogent ABIS.
333.	All	The workstation shall provide the capability to allow Permitted users to set the priority of a latent search	D	X					This Cogent COTS capability is provided through use of a drop down menu in the "Latent Search Parameter" screen.
334.	1/2	The workstation shall provide the capability to provide a drop down list with the permitted values for a latent search priority	M	X					This Cogent COTS capability is provided through use of a drop down menu in the "Latent Search Parameter" screen.
335.	1/2	The workstation shall provide the capability to allow Permitted users to enter the priority of FBI latent submission	M	X					This is a COTS feature of the proposed Cogent ABIS, and is currently being used by the Royal Canadian Mounted Police.
336.	1/2	The workstation shall support the FBI ULW application.	M	X					The Cogent Latent Workstation supports this application.
337.	All	The workstation shall provide the capability to allow Permitted users to collaborate with sites outside of SFPD.	D	X					Current Cogent ABIS users export images and/or data to sites outside of the SFPD through use of E-mail.
338.	1/2	The workstation shall provide the capability to allow Permitted users to view, edit and share fingerprint images with others on the SFPD LAN	D	X					This is a COTS feature of the proposed Cogent ABIS.
339.	1/2	The workstation shall be Interoperable with desktop tools, allowing the workstation reads and writes to the clip board	D	X					The Cogent workstation provides this functionality through the COTS cut,

									paste and export function.
340.	1/2	The workstation shall be Interoperable with file formats utilized in at least the following desktop tools: MoreHits, Media Cybernetics' ImagePro, Adobe PhotoShop, and IISI's "Latent Pro" software;	D	X					Images and data processed on Cogent COTS Workstations can be saved in all standard formats, and are therefore interoperable with the software programs listed in this requirement.
341.	1/2	The workstation shall provide the capability to automatically encode all manually adjustable characteristics	M	X					This is a COTS feature of the proposed Cogent ABIS.
342.	1/2	The workstation shall provide the capability to include minutia, minutia type, core, ridge count, ridge direction, and quality as automatically encoded characteristics	M	X					The requirement as described herein is provided as a COTS feature of the Cogent ABIS.
343.	All	The workstation shall not mark more than 10% of all the automatically encoded characteristics incorrectly	M	X					The automatic encoding provided by the Cogent COTS workstation will comply with this requirement.
344.	All	The system shall provide the user an indication of the allowable values for priority either as a drop down menu or upon help request	D	X					Depending on the preference selected, latent technicians have the option of viewing priority values in either a pop-up window or a drop down window, associated with the workstation job queue.
345.	1 & 3	The system shall provide the user an indication of which fingers are permitted in the Authentication search space either as a drop down menu or upon help request	D	X					The Cogent "Latent Search Parameter" window displays this information without having to use either a drop down window or help request.
346.	All	The system shall provide the user an indication of their allowable search spaces either as a drop down menu or upon help request.	D	X					This information is presented in a drop down menu displayed on the "Latent Search Parameter" window.
347.	1 & 3	The system shall provide the capability to provide Permitted users the ability to request the number of fingers required or the specific fingers required to pass the image quality test before requesting rescan	D	X					Cogent currently has a COTS capability which we believe meets this requirement as we understand it, however, if after meeting with the SFPD it is determined that our COTS capability the does not meet the requirement exactly as desired by the SFPD, Cogent will provide any changes to work flow and/or

									configuration without any cost increases to SFPD.
348.	All	Permitted users shall be able to request images or data to their individual queues or workstations.	M	X					This is a COTS feature of the proposed Cogent ABIS.
349.	1/2/3	The system shall provide the capability to accept inputs from Livescan devices	M	X					This is a standard Cogent ABIS COTS capability. Cogent is able to accept inputs from FBI certified livescans that export NIST compliant images and data.
350.	All	The system shall provide open APIs for interface to other agencies	D	X					The Cogent COTS ABIS has provided open API's for interfacing the following agencies: 1) Fresno CA Sheriff to Los Angeles County Sheriff 2) Local and Provincial Canadian Police to the RCMP 3) European agencies to EURODAC
351.	1/2	The Permitted User of a workstation shall be provided the capability to indicate multiple areas of interest on a print	D	X					This is a COTS feature of the proposed Cogent ABIS.
352.	1/2	The Permitted User of a workstation shall be provided the capability to indicate multiple area of non interest on a print	D	X					This is a COTS feature of the proposed Cogent ABIS.
353.	1/2	The Permitted User of a workstation shall be provided the capability to obtain automatically encoded characteristics of areas of interest	D	X					This is a COTS feature of the proposed Cogent ABIS.
354.	1/2	The Permitted User of a workstation shall be provided the capability to delete encoded characteristics of areas of non interest	D	X					The capability of deleting encoded chareteristics of areas of non-interest is provided as a standard feature of the Cogent ABIS workstations.
355.	1/2	The workstation shall provide the capability to allow Permitted Users to save encoded characteristics at any time	D	X					This is a standard capability provided on Cogent ABIS workstations for those users with appropriate permissions.
356.	1/2	The workstation shall provide the capability to allow Permitted Users to display sets of saved characteristics	D	X					This is a COTS feature of the proposed Cogent ABIS.

357.	1/2	The workstation shall provide the capability to allow Permitted Users to display a list of sets of saved characteristics	D	X					Fingerprint, Palmprint and Latent Print characteristics and edits made to the images can be viewed by authorized users once the characteristics and edits have been saved.
358.	1/2	The workstation shall provide the capability to allow Permitted Users to sort the list of saved characteristics by User ID/Time characteristic was saved.	D	X					The Cogent COTS ABIS tracks all users by log-on and tracks all saved characteristics and edits made for audit purposes. The data is available for viewing as well as to create management reports.
359.	1/2	The workstation shall provide the capability to allow Permitted Users to select a set of saved characteristics from the list of available sets	D	X					This is a COTS feature of the proposed Cogent ABIS.
360.	1/2	The system shall provide the capability to associate saved characteristics with User ID, date and time characteristic was saved	D	X					The Cogent ABIS logs characteristics (minutia) created, and/or saved, by permitted users as a COTS feature.
361.	1/2	The Permitted User of a workstation shall be provided the capability to request saved characteristics	D	X					All images saved in the database, including those characteristics that were defined and saved, may be retrieved from the database and viewed by Permitted Users. This is a COTS feature of the proposed Cogent ABIS.
362.	1/2	The workstation shall provide the capability to allow Permitted Users to edit any of these saved characteristics	D	X					This is a Cogent ABIS COTS capability usually reserved for permitted users like reviewers or supervisors, and is a configurable item.
363.	1/2	The Permitted User of a workstation shall be provided the capability to align the image by rotation in any direction	D	X					This is a COTS feature of the proposed Cogent ABIS. The rotation can be up to 180 degrees in either direction.
364.	1/2	The Permitted User of a workstation shall be provided the capability to move the image with the cursor	D	X					This is a COTS feature of the proposed Cogent ABIS.
365.	1/2	The Permitted User of a workstation shall be provided the capability to Zoom in and out on an image with a minimum power from 1 to 20	D	X					The Cogent ABIS COTS workstation is configured to allow zoom in and

									out through the use of an on screen slide bar.
366.	1/2	The Permitted User of a workstation shall be provided the capability to specify a magnification parameter to enlarge images.	D	X					The Cogent ABIS COTS workstation includes the ability to enlarge or magnify an image with a slide bar allowing users to select the magnification parameter they desire.
367.	1/2	The Permitted User of a workstation shall be provided the capability to perform all image manipulation and enhancement functions that are contained in the most recent versions of Adobe Photoshop, IISI's "Latent Pro" , or More Hits	D	X					The capability to use image manipulation and enhancement tools such as Adobe Photoshop, Latent Pro and Foray (formerly MoreHits) is available and being used by many Cogent ABIS latent examiners. SFPD will likewise be able to use any of the tools listed in the requirement.
368.	1/2	The workstation shall provide the capability to allow a Permitted User to perform all image manipulation and enhancement operations on each of the images in split screen mode independently	D	X					Cogent ABIS Workstation users area able to perform image manipulations and enhancements as requested herein.
369.	1/2	The workstation shall provide the capability to automatically separate overlaid latent	D	X					This is a Cogent ABIS Workstation COTS feature automatically enacted once the appropriate command is activated through a mouse click.
370.	1/2	The Permitted User of a workstation shall be provided the capability to Zoom in and out on split screen images independently	D	X					The capability to zoom in and out on split screens independently or together is a configurable feature in the Cogent COTS ABIS.
371.	1/2	The Permitted User of a workstation shall be provided the capability to coordinate split images so that zoom on one zooms the other at same point and power	D	X					The capability to zoom in and out on split screens independently or together is a configurable feature in the Cogent COTS ABIS.
372.	1/2	The workstation shall provide the capability to allow a Permitted User to adjust the height/width of the image.	D	X					This is a COTS feature of the proposed Cogent ABIS.
373.	1/2	The Permitted User of a workstation shall be provided the capability to position the image on the left or right side of the split screen	D			X			**M** – Modification. This feature is not currently available as COTS, however, it can be provided to the SFPD with minimal modification

									effort from **Cogent** Technicians through changes to tables and configurations. It is estimated that the time needed to accomplish this modification will be less than **20 hours**. The level of complexity for this effort is **Low**.
374.	1/2	The workstation shall provide the capability to allow Permitted users the ability to view any image on a full screen or a split screen	D	X					This is a COTS feature of the proposed Cogent ABIS.
375.	1/2	The workstation shall provide the capability to perform interactive contrast variations, image sharpening, and "Fast Fourier Transform" routines	D	X					This is a COTS feature of the proposed Cogent ABIS.
376.	1/2	The workstation shall provide the capability to automatically enhance ridges	D	X					This is a COTS feature of the proposed Cogent ABIS. The ability to "Extract" and "Enhance" ridges is accomplished with a click of the mouse or key stroke.
377.	1/2	The workstation shall provide the capability to allow a Permitted User to mark artifacts	D	X					This is a COTS feature of the proposed Cogent ABIS.
378.	1/2	The workstation shall provide the capability to allow a Permitted User to remove artifacts	D	X					This is a COTS feature of the proposed Cogent ABIS.
379.	1/2	The workstation shall provide the capability to allow a Permitted User to modify the gray scale.	D	X					The ability to adjust or modify the grayscale of an image is provided with a slider bar the user simply moves left or right to obtain the desired maximum or minimum grayscale. This is a COTS feature of the proposed Cogent ABIS.
380.	1/2	The Permitted User of a workstation shall be provided the capability to invert images.	D	X					This is a COTS feature of the proposed Cogent ABIS.
381.	1/2	The Permitted User of a workstation shall be provided the capability to display images in user selected color	D	X					The Cogent COTS ABIS Workstation provides a list of color options the user can select from for displaying images.
382.	1/2	The Permitted User of a workstation shall be provided the capability to display characteristics in user selected color	D	X					Users of the Cogent COTS ABIS Workstation are able to select colors for display of characteristics (minutia) from a palette provided on screen.

383.	1/2	The Permitted User of a workstation shall be provided the capability to select display colors	D	X					The Cogent COTS ABIS Workstation gives users the option to select a background and/or foreground color from a palette provided on screen.
384.	1/2	The Permitted User of a workstation shall be provided the capability to superimpose one image on another	D			X			**M** – Modification. This desired functionality is currently not available in the Cogent ABIS, primarily because current Cogent ABIS user agencies have not previously requested this option as a tool or option to use for latent image processing. The option of overlaying latent images with file images has been previously discussed among the Cogent Latent User groups, however, the option has not been seen as providing significant value for latent print comparison. This option can be developed by **Cogent** Systems, but will require significant development time for coding, engineering, development, testing and installation. Cogent recommends that feasibility studies involving agency and vendor staff be completed before decisions to proceed with developing this option are made. This will ensure that the functionality as desired by the SFPD is understood prior to development. The level of complexity for this effort is medium
385.	1/2	The workstation shall save the characteristics of each latent submitted along with the ID of the operator who created the data, date of creation, and dates of modifications.	D	X					The Cogent COTS ABIS save the listed data as well as other data for audit trail purposes.
386.	1/2	The workstation shall provide the saved latent data to the SFPD ABIS system	D	X					This is a COTS feature of the proposed Cogent ABIS.

387.	1/2	The Permitted User of a workstation shall be provided the capability to fuse previously saved characteristics into a single set of characteristics	D			X			**C** – Customization. (?) This desired requirement "fusing saved characteristics into a single set of characteristics" is not clearly understood, therefore, Cogent is not able to determine whether or not this is a COTS feature. Cogent recommends that this requirement be the subject of additional discussion during the detail design phase of this project. It appears to be a work flow issue and Cogent is confident that only minor work flow modifications, if any, will be needed to provide this requirement to the SFPD. **Cogent**'s level of complexity for this effort is **Low**.
388.	1/2	The Permitted User of a workstation shall be provided the capability to automatically count minutia and indicate to the operator whether it is a "Quality Latent". That is, it has at least n minutia where the default value for n is 14.	D	X					This is a Cogent ABIS COTS capability. The default value for determining "Quality Latents" is a configurable item.
389.	1/2	The n to determine "Quality Latent" shall be system configurable	D	X					As previously noted in #388 above, this is a COTS configurable item.
390.	1/2	The Permitted User of a workstation shall be provided the capability to compress and decompress images using the WSQ algorithm.	D	X					This is a COTS feature of the proposed Cogent ABIS.
391.	1/2	For images captured at 500ppi, the default value for the WSQ compression/decompression ratio shall be 15:1	D	X					The WSQ Compression ratio included in the Cogent ABIS COTS workstation is 15:1 .
392.	1/2	For images captured at 500ppi, the default value for the WSQ compression/decompression ratio shall be system configurable	D	X					While the Cogent COTS Workstation technically complies with this requirement for compression of images (may not be greater than 15:1), the decompression of images cannot be configurable as that is dependant on the ratio used at time of compression.

393.	1/2	For images captured at 500ppi, the system shall provide the capability to allow Permitted Users to select any valid WSQ compression or decompression ratio	D	X					The Cogent COTS Workstation allows users to select any valid WSQ compression ratio, however, as stated in the response to requirement #392, decompression of images cannot be configurable as that is dependant on the ratio used at time of compression. The accepted ANSI/NIST industry standard compression ratio is 15:1.
394.	1/2	For images captured at 1000ppi, the default value for the JPEG2000 compression/decompression ratio shall be 15:1	D	X					This is a COTS feature of the proposed Cogent ABIS.
395.	1/2	For images captured at 1000ppi the default value for the JPEG200K compression/decompression ratio shall be system configurable	D	X					Both the FBI and NIST recommend that fingerprint images captured at 1000ppi should be compressed using the JPEG2000 algorithm, which the Cogent COTS ABIS Workstations are configured to do. Cogent Engineers are not aware that JPEG200K is as a valid fingerprint compression algorithm, and suspect that the requirement as stated herein may be a typo error, and that the requirement should correctly list the algorithm as JPEG2000.
396.	1/2	For images captured at 1000ppi the system shall provide the capability to allow Permitted Users to select any valid JPEG2000 compression or decompression ratio	D	X					The Cogent COTS Workstation allows users to select any valid JPEG2000 compression ratio, however, decompression of JPEG2000 images cannot be configurable as that is dependant on the ratio used at time of compression.
397.	1/2	The system shall provide the capability to allow only Properly Privileged users to change automatically extracted characteristics	D	X					A feature of the Cogent COTS ABIS is the capability for minutia that has been marked to only be changed by system authorized users with the specific authority to change or modify previously marked minutis.

398.	1/2	The workstation shall provide the capability to allow a Permitted User of a workstation to the capability to submit a print for a search against selected prints without manually extracting characteristics	D	X					A COTS feature of the Cogent ABIS being proposed for the SFPD is the ability to set "Auto Minutia Marking". The system then automatically launches a latent search without the need to mark any minutia manually.
399.	1/2	The workstation shall provide the capability to search with automatically extracted characteristics when a print is submitted without manual extraction of characteristics or selecting a previously stored set of characteristics	D	X					This is a standard Cogent ABIS COTS capability as described in the aforenoted requirement #398.
400.	1/2	The workstation shall provide the capability to use the currently open set of extracted characteristics when a print is submitted for search	D	X					The Cogent ABIS COTS Workstation automatically uses the extracted characteristics as selected/identified by a latent examiner when processing a latent transaction.
401.	1/2	A Permitted User of a workstation shall be provided the capability to submit latent searches directly to the FBI or other agency	D	X					The ability to submit latent searches directly to other agencies or the FBI is configurable; however, sending latent prints directly to the FBI is currently not permitted by the State.
402.	1/2	A Permitted User of a workstation shall be provided the capability to create "special" search spaces	D			X			**M** – Modification. The Cogent COTS ABIS provides for the capability to preconfigure "special" search spaces in the ABIS database such as criminal, civilian, age, sex, etc., however, the ability to create search spaces is currently not available to "permitted users" or any other Agency personnel. Creating search spaces in the COTS ABIS database must currently be performed by qualified Cogent technicians. The capability as requested can be provided, by a qualified Cogent Technician who would write customized scripts to perform the tasks and provide the necessary documentation. Cogent recommends

									that feasibility studies involving agency and vendor staff be completed before decisions to proceed with developing this option are made. The total vendor effort in hours to implement this option is estimated to be less than **30 hours**. **Cogent**'s level of complexity for this effort is **low**.
403.	1/2	The workstation shall provide the capability to allow Permitted users to add prints to "special" search spaces	D	X					Once "special" search spaces have been created in the Cogent COTS ABIS database, permitted users will be able to add prints to those special search spaces.
404.	1/2	The workstation shall provide the capability to allow Permitted users to specify search space	D	X					This option is an available COTS feature of the proposed Cogent ABIS.
405.	1/2	The workstation shall provide the capability to allow Permitted users to specify finger number	D	X					This option is available to users when opening the "Latent Search Parameter" window.
406.	1/2	The workstation shall provide the capability to allow Permitted users to specify if print is a finger or a palm	D	X					When using the Cogent COTS ABIS for latent processing, operators scan the latent they are processing, then save the latent as either a finger or palm latent.
407.	1/2	The workstation shall provide the capability to allow Permitted users to specify finger position or palm type	D	X					This capability is provided for in the "Latent Search Parameter" window of the Cogent COTS ABIS.
408.	1/2	The workstation shall provide the capability to allow Permitted users to retrieve demographics and criminal history of any candidate	D	X					All data and images may be retrieved from the ABIS database by authorized users.
409.	1/2	A Permitted User of a workstation shall be provided the capability to get the next candidate automatically	D	X					After confirming a Latent Identification, the next case in the queue is automatically provided to the user.
410.	1/2	The system shall provide the capability to return the top n candidates to the submitting users results Queue	D	X					This is a COTS feature of the proposed Cogent ABIS.
411.	1/2	The system shall provide the capability to notify submitters that a search has been completed	D	X					The workstation "Job Status" view, available on both Tenprint Search and

									Latent Search views, displays the transactions in queue and the status of each transaction, i.e. "Processing", "Database Searching", "Updating Database"' "Completed", "Wait 4 LT Edit", etc.
412.	1/2	The notification shall identify which search has been completed	D	X					This is provided as described in the aforementioned response to item #411.
413.	1/2	A Permitted User of a workstation shall be provided the capability to display a resulting candidates prints and demographics	D	X					This is a COTS feature of the proposed Cogent ABIS.
414.	1/2	A Permitted User of a workstation shall be provided the capability to display resulting candidates on a split screen with one screen containing the submitted print	D	X					This is a COTS feature of the proposed Cogent ABIS.
415.	1/2	The image shall highlight all characteristics encoded on displayed prints	D	X					This is a COTS feature of the proposed Cogent ABIS.
416.	1/2	The image shall indicate all characteristics that matched submission on displayed prints and submission if displayed	D	X					Fingerprint characteristics that are indicated on a print submitted for search (i.e. minutia points) are displayed on corresponding file prints which have been returned to the user for verification. Search print minutiae that match file print minutia are displayed in a contrasting color.
417.	1/2	A Permitted User of a workstation shall be provided the capability to overlay submitted image over candidate image and recognize each	D			X			**M** – Modification. This desired functionality is currently not available in the Cogent ABIS, primarily because current Cogent ABIS user agencies have not previously requested this option as a tool or option to use for latent image processing. The option of overlaying latent images with file images has been previously discussed among the Cogent Latent User groups, however, the option has not been seen as providing significant value for latent

									print comparison. This option can be developed by Cogent Systems, but will require significant development time for coding, engineering, development, testing and installation. Cogent recommends that feasibility studies involving agency and vendor staff be completed before decisions to proceed with developing this option are made. It is estimated that the total effort to provide this will require a total of two weeks. **Cogent**'s level of complexity for this effort is **Medium**.
418.	1/2	A Permitted User of a workstation shall be provided the capability to indicate a candidate is a match	D	X					This is a COTS feature of the proposed Cogent ABIS.
419.	1/2	The system shall provide the capability to send submission and match to Verification Queue	D	X					This Cogent ABIS COTS capability is currently being used by the Los Angeles County AFIS for LAPD latent verifications as well as the RCMP.
420.	1/2	A Permitted User of a workstation shall be provided the capability of printing images and data with a resolution of 1000dpi	D	X					Images captured at 1000ppi or greater, and/or datababase images which are 1000ppi can be printed with resolution of 1000ppi.
421.	1/2	A Permitted User of a workstation shall be provided the capability of creating latent characteristics matching charts to present images for submission and explanation in court	D	X					The capabilities described are all available as COTS features of the proposed Cogent ABIS.
422.	1/2	A Permitted User of a workstation shall be provided the capability of displaying any image at the size of the original image	D	X					This is a COTS feature of the proposed Cogent ABIS.
423.	1/2	The Identification Technician\Latent Print Examiner shall be able to save a transaction in the state one was working on it	D	X					Transactions can be saved in two configurable modes. They can be locked so that only the user saving the transaction can open them, or be saved so that any authorized user can open the transaction and continue working on it.

424.	1/2	The Identification Technician\Latent Print Examiner shall be able to view biographic data and image for the subjects of input transactions and for search candidates.	D	X					This is a COTS feature of the proposed Cogent ABIS.
425.	1/2	The Identification Technician\Latent Print Examiner shall be able to search for a specific transaction by SF#	D	X					Cogent ABIS users are able to search for specific tansaction by agency number in both the transaction queue and/or the ABIS database.
426.	1/2	The Identification Technician shall be able to view reasons that a transaction was sent for post encoding review. These reasons shall include, but not be limited to: Pattern mismatch, poor coder scores, plain image segmentation errors, sequence errors, and prior Identification Technicians' selected reasons. Reasons shall be as specific as possible.	D	X					The Cogent ABIS COTS workflow enables users who forward a transaction for post encoding review to specify, in free form or from a pull down menu, the reason for the transaction having been forwarded and ID Technicians receiving the forwarded transaction are able to read the reason for the forward.
427.	1/2	The Identification Technician shall have the ability to move plain image segmentation boxes and re-launch a sequence check once this has been done.	D	X					Using the Cogent ABIS COTS workflow, ID Technicians are able to cut and paste images. Once the cut and paste has been saved the ABIS automatically relaunches the transaction and completes all quality checks including sequence checks.
428.	1/2	The system shall display all 14 images (ten rolls and four plain boxes) at the initial acquisition screen, when applicable.	D	X					This is a COTS feature of the proposed Cogent ABIS.
429.	1/2	Segmentation boxes shall be displayed based on the systems best attempt at segmentation. Identification Technicians shall have the ability to move and/or rotate all segmentation boxes and to resize the plain image boxes, when applicable.	D	X					These capabilities are COTS features of the proposed Cogent ABIS.
430.	1/2	The Identification Technicians shall have the ability to input fingerprint patterns and visual quality assessments throughout the acquisition process.	D	X					This is a COTS feature of the proposed Cogent ABIS.
431.	1/2	The Identification Technicians shall have the ability to send a transaction to an "acquisition supervisor queue" with a required selected reason. The reasons will be provided in a list from SFPD.	D	X					The Cogent ABIS COTS workflow enables users who forward a transaction for review to specify, in free form or from a pull down menu, the reason for the transaction having been forwarded and ID Technicians

									receiving the forwarded transaction are able to read the reason for the forward.
432.	1/2	Identification Technicians have the same functionality from the "acquisition supervisor queue" as the acquisition examination queue.	D	X					The Cogent COTS ABIS provides configurable acquisition options which comply with this request.
433.	1/2	The Identification Technicians shall have the option to view specific biographic data on a separate screen. These fields shall include but not be limited to: • TCN, • image override indicators from contributors, • Contributor ORI, • Date Received, • Name, • Date of Birth, • Sex, • Resubmission Indicator, • Signature image.	D	X					Using the Cogent COTS ABIS workstation ID Technicians have the option of viewing the entire biographic record (like the RCMP) or a portion of the record (like the LASD). The option is configurable.
434.	1/2	The Latent Print Examiner shall have the option to view specific data. These fields shall include but not be limited to: Case Identifier and Original Latent Print Examiner ID.	D	X					Viewing the described data as well as other data fields used for Latent Case definition is available for viewing by a Latent Print Examiner.
435.	1/2	Latent Examiners shall have the ability to view all or selected portions of a Latent print.	M	X					This is a COTS feature of the proposed Cogent ABIS.
436.	1/2	Latent Examiners shall have 360 degree image orientation capability.	M	X					While 180 degrees is the default setting for most currently installed Cogent ABIS's, the system can be configured to perform a 360 degree search.
	Priority								
437.	1	The system shall provide the capability for the users to set priorities on print searches.	M	X					This capability is a COTS feature of the proposed Cogent ABIS.
438.	1	The system shall provide the capability to prioritize all print searches with a priority that has a minimum numerical range of from 1-10	M	X					The capability to prioritize all print searches is provided in the Cogent ABIS COTS workstation "Print Process" window, which allows users to enter numberical ranges as defined.

439.	1/2	The system shall provide the capability to permit the following types of searches to have priorities: latent search, civil/applicant search, authentication search, and criminal search. (A single priority field may be used for all priorities if the system can allow the user the capability and flexibility to set the individual priorities independent of the general priority and to be able to have an individual priority greater than or equal to other print priorities in system at that time).	M	X					The Cogent COTS ABIS workstation allows users the capability and flexibility to set individual priorities as defined in the requirement.
440.	1/2	The system shall provide the capability to provide priority for FBI latent submission.	M	X					Cogent was the first commercial manufacturer to fully embrace the FBI data format standards that are the basis of the ULW. Cogent understands and complies with the FBI standards and requirements for setting latent priorities which are currently limited to three settings in the ULW. Cogent's priority settings are configurable with a default of one through ten and are set while the user is working in the Cogent COTS "Latent Search Parameters" window. The FBI ULW priority is set once the transaction has been exported to the ULW software via the "Ready to Insert" window, running on the Cogent COTS workstation. At that time the option to select one of the three priority settings permitted by the FBI are offered to the user.
441.	1/2	The FBI Latent priority shall not be the same field as Search Priority.	M	X					As explained in the answer to requirement #440 above, Cogent complies with this requirement by offering configurable Cogent COTS priority settings, and separate and different FBI ULW compliant priority settings.
442.	1/2	This FBI Latent priority shall comply with the FBI standards for latent Priority.	M	X					The Cogent ABIS COTS workstation includes the FBI ULW software as COTS. Cogent complies with the

									current FBI priority standards as explained in the answer to requirement #440 (above). Should the standard be changed by the FBI in the future, Cogent will provide the necessary upgrades/changes to the SFPD without cost.
443.	1/2	The system shall provide the capability to prioritize all batches of print searches with a single priority which has a minimum numerical range from 1 to 10	M	X					This capability is a COTS feature of the proposed Cogent ABIS.
444.	1/2	The system shall select the next print to search based upon its priority and the oldest time of arrival	M	X					This is the default work flow for both Tenprint and Latent Print searches provided with the Cogent COTS Workstation.
445.	1/2	The system shall provide the capability for Permitted Users to set priorities on print searches.	M	X					This is a COTS feature that is accomplished by the user entering a value into an on-screen wndow and a simple mouse click or key stroke.
446.	1/2	The system shall provide the capability for the default values of the priority field to be system configurable	D	X					This capability is a COTS feature of the proposed Cogent ABIS as a configurable item.
447.	All	The system shall provide the capability for Permitted Users to modify the default values of Priority	D	X					This is currenly provided in the COTS workstation and usually reserved for senior level Permitted Users, Supervisors or Administrators.
448.	All	The AFIS Administrator/Permitted User shall be capable of extending individual users the privilege of setting the priority field for searches	D	X					Extending the privilege of setting an individual users search priorities is a COTS feature provided through Cogent's Account Manager..
449.	All	Permitted Users may set the priorities available to individual users i.e. the range permitted for one user may be different from another	D	X					Setting priorities for individual users different from one another is easily accomplished in the COTS Account Manager.
450.	1/2	If the priority is not set for a print search, the system shall search the print at the lowest priority and prioritized by time of arrival	D	X					This is a configurable feature that can be set to search at the lowest priority or some other default priority setting in the Cogent COTS workstation.

451.	1/2	The system shall provide the capability to independently prioritize latent prints with an AFIS search priority that has a minimum numerical range from 1 to 50. The range shall be configurable by the AFIS Administrator. This priority shall be independent of the priority for other types of print searches. (A single priority field may be used for latent and other prints if system can allow the user the capability to set the latent priority independent of the general priority and to be able to have latent priority greater than or equal to other print priorities.)	D	X					The Cogent COTS ABIS workstation allows users the capability and flexibility to set individual priorities as described in the aforenoted response to requirement #445.
452.	1/2	The system shall provide the capability to independently prioritize civil/applicant prints with a priority that has a minimum numerical range from 1 to 10. (As in the case of other priorities, a single priority field may be used for applicant and other prints if system can allow the user the capability to set the applicant priority independent of the general priority and to be able to have applicant priority greater than or equal to other print priorities running at that time.)	D	X					The Cogent COTS ABIS workstation allows users the capability and flexibility to set individual priorities as described in the aforenoted response to requirement #445. The capability is provided for civil/applicant prints as well as Tenprint and Latent transactions.
453.	1/2	The system shall provide the capability to independently prioritize criminal 10print prints with a priority that has a minimum numerical range from 1 to 20. (As in the case of other priorities, a single priority field may be used for criminal and other prints if system can allow the user the capability to set the criminal priority independent of the general priority and to be able to have criminal priority greater than or equal to other print priorities running at that time)	D	X					The Cogent ABIS COTS workstation provides users the capability to prioritize criminal Tenprint transactions as described in the requirement. The numerical range is a configurable setting.
454.	1/2	The system shall provide the capability to independently prioritize authentication prints with a priority that has a minimum numerical range from 1 to 5. (As in the case of other priorities, single priority field may be used for authentication and other prints if system can allow the user the capability to set the authentication priority independent of the general priority and to be able to have authentication priority greater than or equal to other print priorities running at that time)	D	X					The Cogent ABIS COTS workstation provides users the capability to prioritize criminal Tenprint transactions as described in the requirement. The numerical range is a configurable setting.
455.	1/2	The system shall provide the capability to independently prioritize the following classes of prints for searching as a class:	D						This desired requirement is incomplete as stated and appears to be a part of the following requirement, number 456.
456.	1/2	latent search, civil/applicant search, authentication search, training and criminal search.	D	X					The Cogent ABIS COTS workstation provides users the capability to independently prioritize the search transactions as defined when combining #455 and 456 as a single

									requirement.
457.	1/2	The system shall provide the capability for the AFIS Administrator/Permitted User to change the priority of those prints or batches that are in the In process Queues	D	X					Managing Transaction settings, including priority settings, are accomplished from the "Print Process" window, and achieved by merely clicking on the transaction to be changed and entering a new priority or other setting.
458.	1/2	The system shall provide the capability for the AFIS Administrator/Permitted User to change only the priority of those prints or batches that are in the In process Queues	D	X					This capability is a COTS feature of the proposed Cogent ABIS as a configurable item, based on permissions of the Administrator and/or permitted user.
459.	1/2	The system shall provide the capability to independently prioritize Training prints with a priority that has a minimum numerical range from 1 to 5. (As in the case of other priorities, single priority field may be used for Training and other prints)	D	X					This capability is a COTS feature of the proposed Cogent ABIS.
	Workflow								
460.	All	The system shall provide the capability to automatically manage workflow	M	X					The Cogent COTS ABIS has default workflows which are configurable. The workflow for SFPD will be customized during the detail design phase of the project. Once implemented, the workflows are automatically managed by the System.
461.	All	The system shall provide the capability of running searches unattended and automatically	M	X					This is a COTS feature of the proposed Cogent ABIS.
462.	All	The system shall provide the capability to automatically extract characteristics from rolled images	M	X					This is a Cogent ABIS COTS capability. Once a tenprint transaction is entered either by scanner or livescan submission, the characteristics (minutia) are automatically extracted from the rolled images.
463.	All	The system shall provide the capability to automatically extract characteristics from flat images	M	X					This is a Cogent ABIS COTS capability. Once a tenprint transaction is entered either by

									scanner or livescan submission, the characteristics (minutia) are automatically extracted from the flats images.
464.	All	The system shall provide the capability to automatically extract characteristics from palm images	M	X					This is a Cogent ABIS COTS capability. Once a palm print transaction is entered either by scanner or livescan submission, the characteristics (minutia) are automatically extracted from the palm print images.
465.	All	The system shall provide the capability to automatically store characteristics from rolled images	M	X					Characteristics extracted from rolled images are automatically saved in the transaction file at the time the transaction is enrolled in the database. This is a Cogent COTS ABIS capability.
466.	All	The system shall provide the capability to automatically store characteristics from flat images	M	X					Characteristics extracted from flats images are automatically saved in the transaction file at the time the transaction is enrolled in the database. This is a Cogent COTS ABIS capability.
467.	All	The system shall provide the capability to automatically store characteristics from palm images	M	X					Characteristics extracted from palm print images are automatically saved in the transaction file at the time the transaction is enrolled in the database. This is a Cogent COTS ABIS capability.
468.	All	The system shall provide the capability to automatically submit Tenprint searches	M	X					Once the automatic characteristics extraction, quality check, and sequence check for tenprint transactions have been completed, the Cogent ABIS COTS workflow automatically initiates search of the database.

469.	All	The system shall provide the capability to automatically determine the number of prints from one subject to use for a search	M	X					The Cogent COTS ABIS automatically selects the best quality images for searching tenprint transactions, typically four fingers for a tenprint identification search and two fingers for rapid (mobile) identification searches.
470.	All	The system shall provide the capability to automatically determine which prints from one subject to use for a search	M	X					The Cogent COTS ABIS automatically selects the best quality images for searching tenprint transactions, typically four fingers for a tenprint identification search and two fingers for a rapid (mobile) identification searches
471.	All	The system shall provide the capability to automatically determine the order in which to search a subjects prints	M	X					This is a COTS feature of the proposed Cogent ABIS, and does not require any operator intervention.
472.	All	The system shall provide the capability to automatically move print to the next stage of processing	M	X					This is a COTS feature of the proposed Cogent ABIS, not requiring any operator intervention once the images and data have passed the quality control phase of the work flow.
473.	All	The system shall provide the capability to automatically include all associated items necessary for the next stage processing of the print	M	X					All associated items, including extracted characteristics, become a component of each individual transaction and move to each successive stage of the work flow process.
474.	All	The system shall provide the capability to automatically skip the verification stage of processing for prints identified as autoident	D	X					One of the major goals of this ABIS initiative is to establish a tenprint identification environment in which substantially all incoming tenprint transactions can be searched without manual intervention, including automatically skipping the verification stage for prints identified as “autohit”. Cogent’s capability to

									provide highly accurate, lights out tenprint identification, was proven in the acceptance test for the Royal Canadian Mounted Police Real Time ID (RTID) system, where the Cogent system scored the highest accuracy acceptance test results possible (100%).
475.	All	The system shall provide the capability to automatically skip the verification stage of processing when the system is in autoident mode	D	X					This is a COTS feature of the proposed Cogent ABIS; please refer to the detailed response to the aforenoted requirement number 474 for additional details.
476.	All	The system shall provide the capability to automatically allow training prints submitted for search to search on the training search space	D	X					The Cogent COTS workflows are configurable; therefore, the work flow for training transactions (incldluing prints) will automatically be submitted to the "training search space" in the ABIS database.
477.	All	The system shall provide the capability to automatically prevent training prints submitted for search to search on non training search spaces	D	X					The ability to prevent searches of specific "search spaces" within the ABIS is a configurable feature of COTS and will be provided as requested herein.
478.	All	The system shall provide the capability to automatically search the next preferred Search space until either a match is found or the entire criminal submission search space has been searched if the selected search space does not yield a match	D	X					This is a configurable COTS capability which will be refined during the detailed design phase of the project. At that time all SFPD work flow requirements will be incorporated in the ABIS design.
479.	All	The system shall provide the capability to determine whether a print has been submitted for search	M	X					The status of each transaction being processed by the Cogent COTS ABIS is displayed for users in an onscreen window; this includes the status of when a print has been submitted to the ABIS for search.

480.	All	The system shall provide the capability to determine whether a submitted print has begun the search process	D	X					The status of each transaction being processed by the Cogent COTS ABIS is displayed for users in an onscreen window; this includes the status of when a print has begun the search process in the ABIS.
481.	All	The system shall provide the capability to determine whether a submitted print has completed its search process	M	X					The status of each transaction being processed by the Cogent COTS ABIS is displayed for users in an onscreen window; this includes the status of when a print has completed the search process in the ABIS.
482.	All	The system shall provide the capability to determine whether a print has been submitted for Verification	M	X					The status of each transaction being processed by the Cogent COTS ABIS is displayed for users in an onscreen window; this includes the status of when a print has been submitted for verification in the ABIS.
483.	All	The system shall provide the capability to determine whether a submitted print has begun the Verification process	M	X					The status of transactions, including those requiring verification, can be viewed as described in the aforementioned responses to requirements #479-482.
484.	All	The system shall provide the capability to determine whether a submitted print has completed its Verification process	M	X					The status of transactions, including those that have completed verification, can be viewed as described in the aforementioned responses to requirements #479-482.
485.	All	The system shall provide the capability to report to Permitted Users which of the six stages (submitted, begun search, completed search, submitted to verification, begun verification, or completed verification) a submission is in	D	X					The Cogent ABIS Workstation COTS job status messages provide the requested stages and several additional stages. The COTS Job Status Messages are as follows; Processing, Database Searching, TP/Wait 4 Verify, UL/Wait 4 Verify, PL/Wait 4 Verify, Inserting Sib (flats), Updating Database, Update Completed, and Completed.

486.	All	The system shall provide the capability to search prints automatically against full specified (default or Permitted User specified) search space	M	X					The Cogent COTS ABIS proposed for the SFPD features 100% database penetration for tenprint, latent, and palm print searches. As with systems previously developed for law enforcement agencies around the world, the ABIS work flow will be configurable so that certain specified or user defined searches can be limited to specific search spaces.
487.	All	The system shall provide the capability to control the submissions to the matchers to balance the load such that the average load over 20 minutes on a search engine segment is not greater than 50% of load on other segments	D	X					Cogent provides more flexibility than any biometric identification technology supplier when it comes to the design of large scale biometric identification systems. All of our matchers run in a Linux or Unix environment, are platform-independent, and provide unlimited scalability.
488.	All	The system shall provide the capability to allow permitted users to determine/set which fingers will be used for tenprint searching	D	X					While the Cogent ABIS COTS workflow automatically selects the best quality images for searching, the system can be configured to allow user determined fingers to be searched.
489.	All	The system shall provide the capability to allow Permitted Users to move work in Users' Work Queues to other Users' Work Queues	D	X					This is a Cogent ABIS COTS functionality that is usually reserved for users with supervisory or trainor permissions.
490.	All	The system shall provide the capability to allow Permitted Users to specify which type of print (civil/applicant or criminal) shall be processed without verification	D	X					This is a configurable COTS feature of the proposed Cogent ABIS.
491.	All	The system shall provide the capability to allow Permitted Users to specify a percentage of fingerprints/fingerprint types that may be processed without verification	D			X			**C** – Customization. This feature is currently not available and will require modifications to existing COTS tables and Work Flows. Providing this feature will be accomplished by **Cogent**

									Technicians. It is estimated that this effort will require approximately **20 hours** to complete. The level of complexity for this effort is **Low**.
492.	All	The system shall provide the capability to automatically indicate which prints need verification based upon a percentage of fingerprints/fingerprint types that may be processed without verification	D			X			**C** – Customization. As noted in the response to requirement #491, which is related to this requirement, this feature is currently not available, but will be provided to the SFPD. The modifications needed to provide this requirement are included in the estimate for the aforementioned response. **Cogent**'s level of complexity for this effort is **Low**.
493.	All	The system shall provide the capability to automatically forward notifications and messages to designated individuals currently logged into the system	D	X					The ability to provide and/or forward specific messages as described herein is provided for in the Cogent COTS Active Directory.
494.	All	The system shall provide the capability to automatically queue notifications and messages to designated individuals currently not logged into the	D	X					This capability is a configurable feature of the Cogent COTS Active Directory.
495.	All	The system shall provide the capability to locate work in progress based on System ID number or Subject name, DOB, sex	D	X					Transactions in the "Work In Progress" cueue may be located by any of the requested identifiers as a COTS function of the Cogent ABIS Workstation.
496.	All	The system shall provide the capability to provide the ability for Permitted Users to view any work in progress	D	X					This is a COTS feature of the proposed Cogent ABIS.
497.	All	The system shall provide the capability to provide the ability for Permitted Users to view the complete history of a work item including but not limited to: the date of arrival of the work item, all individuals who worked on the item, their role, the task they performed, their Service, the start and end time the item was assigned to them, the total actual time spent working on the item, the status changes of the work item and their associated dates and time	D	X					The complete history of a transaction, including the stages described, is currently logged by the Cogent COTS ABIS for audit trail purposes, and can be viewed, or included in reports, requested by permitted users.
498.	All	The system shall provide the capability to direct all errors to an error resolution workstation	D	X					This capability is a COTS feature of the proposed Cogent ABIS.. Error and/or problem resolution is provided

									for transactions in either (or both) the pre-processing and post-processing stages.
499.	All	The system shall provide the capability to automatically deliver information requested by Permitted Users directly to the user	D	X					This capability is a COTS feature of the proposed Cogent ABIS. However, the requirement description needs additional clarification prior to system work flow designs. Since the capability to provide information to permitted user is configurable, these clarifications can be provided during the detail design phase of this project.
	Search Spaces This section deals with that portion of the print database that is searchable and under what conditions. A search space is a general term independent of how data is stored, organized etc. That is the reason the section uses the term search space rather than a more concrete term. It details what can be in a search space, how it can be subdivided, who can operate with it and under what conditions.								
	General								
500.	All	The system shall provide the capability to allow multiple search spaces	M	X					The Cogent COTS ABIS proposed for the SFPD features 100% database penetration for tenprint, latent, and palm print searches. As with systems previously developed for law enforcement agencies around the world, the database will be configurable to allow for multiple search spaces. The Cogent COTS workflow allows for incoming transaction to be searched against any one, or any combination of all search spaces.
501.	All	The system shall provide the capability to allow individual search spaces to be joined by the equivalent of database Union or Join	D	X					The capability to allow individual search spaces to be combined as an SQL JOIN clause is currently available as a COTS feature of the Cogent ABIS. The workstation search result will be a combined result of each individual search space

									result. The logic applied is similar to database union or join. Depending on the required candidate list size, the combined result may not be able to include all the individual search space results. This issue needs additional discussion with SFPD staff during the Detail Design phase of the project.
502.	All	The data in the search space shall consist of the characteristics or features necessary to perform a print search along with a pointer/key to the remaining images and data associated with the print	D	X					This is a COTS feature of the proposed Cogent ABIS.
503.	All	The system shall provide the capability to demographically delimit any search space e.g. all criminal prints that are male between 18-30 years of age	D	X					This capability is available as a Cogent Cots component, however Cogent strongly suggests the SFPD not choose this option since the option will affect the overall system accuracy, and recommends that the feasibility of this requirement be discussed by SFPD staff and Cogent technicians during the Detail Design phase of this project. As previously noted, the Cogent COTS ABIS supports 100% penetration and does so meeting SFPD's response requirements.
	Criminal								
504.	1/2/3	The system shall provide the capability to allow for a Criminal search space	D	X					The Cogent COTS ABIS allows for the creation of a Criminal search space as a configurable item.
505.	1/2/3	The system shall provide the capability to allow the criminal search space to be composed of subsets each of which shall be a separate search space	D			X			**M** – Modification. In principle the Cogent COTS ABIS supports this feature, hoever, creating subsets, as defined in requirement #506, within the criminal search space will require customization to the COTS work flow as well as custom code development. The requirements as described in

									requirements #505 and #506 will be developed simultaneously by qualified **Cogent** engineers and technicians. As previously noted, this effort will require approximately **1 week** for completion and testing. The level of complexity for this effort is **Medium**.
506.	1/2/3	The system shall provide the capability to allow the following subsets of the criminal search space • rolled prints of each finger • flat prints of each finger • composite prints of each finger • flat palms of each hand • palm edges of each hand	D			X			**M** – Modification. Although the Cogent COTS workflow currently stores rolled and flats prints of each finger together for each finger, the work flow as described in the desired requirement herein will be included in the ABIS proposed for the SFPD. Providing the capability as desried will be a moderately difficult task. Please refer to the comments provided for requirement #505 above. **Cogent**'s level of complexity for this effort is **Medium**.
	Unsolved Latent Files								
507.	1/2	The system shall provide the capability to allow for a ULF search space	D	X					The Cogent COTS ABIS provides for an "Unsolved Latent File" search space.
508.	1/2	The system shall provide the capability to allow the ULF search space to be composed of subsets each of which shall be a separate search space	D	X					The Cogent COTS ABIS Latent search space includes a search space for unsolved latents (ULF), and is configurable to allow for the creation of subset.
509.	1/2	The system shall provide the capability to allow the following subsets of the ULF search space • Quality latents • Nonquality latents	D	X					As previously noted, the Cogent COTS ABIS Latent search space is configurable and will allow for search spaces for "Quality Latents" and "Nonquality Latents".
510.	1/2	The system shall provide the capability to delimit ULF search spaces by Latent case ID	D	X					This capability is a COTS feature of the proposed Cogent ABIS.

	Civil/Applicant								
511.	1/2	The system shall provide the capability to allow for a Civil/Applicant search space	D	X					The Cogent COTS ABIS provides for a "Civil/Applicant" search space.
512.	1/2	The system shall provide the capability to allow the Civil/Applicant search space to be composed of subsets each of which shall be a separate search space	D	X					The Cogent COTS ABIS provides the capability to allow Civil/Applicant search spaces with subsets as defined in the requriement.
513.	1/2	The system shall provide the capability to allow the following subsets of the Civil/Applicant search space • rolled prints of each finger • flat prints of each finger	D			X			**M** – Modification. Although the Cogent COTS workflow currently stores rolled and flats prints of each finger together for each finger, the work flow as described in the desired requirement will be included in the ABIS proposed for the SFPD. Providing the capability will be a moderately difficult task and will be completed by a qualified Cogent Techncian. Please refer to the comments provided for requirement #505 above. **Cogent**'s level of complexity for this effort is **Medium**.
	Authentication Authentication typically deals with comparing a search print against a known print to determine if they are the same subject in a lights out scenario. In a small search space, it may just ask to compare the print against all the subjects in the space and determine if it is an ident in a lights out mode. This is often done to authenticate a user for logon, allow access to a building etc.								
514.	1/2	The system shall provide the capability to allow for multiple Authentication search spaces	M	X					Multiple Authentication Search Spaces are included in the Cogent COTS ABIS. As a provider of biometric access control devices through its "Smart Gate" product line, Cogent System has considerable experience with "Authentication Search" spaces. Smart Gate technology provides 1:1 and 1:N single and multiple finger identity verification.

515.	1/2	The system shall provide the capability for the User to be able to specify a maximum of 50 Authentication search spaces	D	X					The number of "Authentication Search Spaces" available is a configurable number and can easily be limited to a maximum of 50 spaces.
516.	1/2	The system shall provide the capability for each Authentication search space to be composed of 1-n flat/rolled prints	D	X					This is a COTS feature of the proposed Cogent ABIS.
517.	1/2	The default value for n is configurable	D	X					This is a COTS feature of the proposed Cogent ABIS.
518.	1/2	The system shall provide the capability to allow Permitted Users to specify n	D	X					This is a COTS feature of the proposed Cogent ABIS.
519.	1/2	The system shall provide the capability to prevent non Permitted Users from specifying n	D	X					This is a COTS feature of the proposed Cogent ABIS.
520.	1/2	The default specification of which finger/fingers to allow for an Authentication search space is configurable	D	X					This is a COTS feature of the proposed Cogent ABIS.
521.	1/2	The system shall provide the capability to allow Permitted Users to specify which finger/fingers are to be allowed for an Authentication search space	D	X					This is a COTS feature of the proposed Cogent ABIS.
522.	1/2	The system shall provide the capability to prevent non Permitted Users from specifying which finger/fingers are to be allowed for an Authentication search space	D	X					This is a COTS feature of the proposed Cogent ABIS.
523.	1/2	The system shall provide the capability to allow each Authentication search Space that is not included in existing criminal or civil search spaces to contain a maximum of 1000 subjects' prints.	D	X					This is a COTS feature of the proposed Cogent ABIS.
524.	1/2	The system shall provide the capability for AFIS Administrator/Permitted Users to display a list of the Authentication search spaces	D	X					The search spaces which make up the Cogent ABIS database are available for display to permitted users as requested.
525.	1/2	The system shall provide the capability for AFIS Administrator/Permitted Users to display a list of the ID/subject name, DOB of all subjects prints in a search space	D	X					The information requested for display is available in the log files maintained by the Cogent COTS ABIS and therefore capable of beind displayed to Permitted Users.
526.	1/2	The system shall provide the capability to prevent the addition of duplicate sets of prints for a subject with the same ID/subject name, DOB	D	X					This is a standard requirement for biometric access control devices. Cogent's "Smart Gate" biometric fingerprint technology provides the

									capability desired as a COTS component.
527.	1/2	The workstation shall include a Livescan device/devices that has the capability to collect one or more rolled/flat fingerprints	D	X					Rolled or flats fingerprints used to enroll a person in the "Authentication Search Space" may be captured on any one of Cogent's single or multi-finger scanners like the CSD 200, CSD330,CSD 450 or CSD 500e in conjunction with the COTS ABIS Workstations. In addition, llivescan devices like the CLS1 or CSL1 Lite-X may be used to enroll a person into the "Authentication Search Space".
528.	1/2/8	The Livescan device shall collect images at a minimum of 500dpi	D	X					All devices listed in the response to requirement #527, above, have a minmum rsolution of 500dpi.
529.	1/2/8	The workstation shall provide the capability to operate in an enrollment mode and an authentication mode	D	X					Cogent's Smart Gate technology provides for this capability through the use of the Cogent finger scnner devices.
530.	1/2	The default mode of a workstation shall be configurable	D	X					The default mode for a workstation with a finger scanning device may be set to either capture or authentication mode.
531.	1/2	The workstation shall provide the capability to allow Permitted Users to set the mode of the workstation	D	X					The default mode for a workstation with a finger scanning device may be set to either capture or authentication mode.
532.	1/2	The workstation shall provide the capability to perform enrollment when in enrollment mode	D	X					This configurable feature is a COTS feature of the proposed Cogent ABIS.
533.	1/2	The workstation shall provide the capability to automatically add prints to a specific search space in enrollment mode	D	X					The Cogent ABIS Workstation COTS capability provides for "Authentication" prints to be enrolled automatically once they have passed the system Quality Check.

534.	1/2	The workstation default search space shall be configurable	D	X					Cogent COTS ABIS Workstations have multi-use capability. The same workstation used for Tenprint processing is used for Latent and Palm print processing as well as Authentication enrollment.
535.	1/2	The workstation shall provide the capability to perform automatic authentication when in authentication mode	D	X					This capability is a COTS feature of the proposed Cogent ABIS.
536.	1/2	The workstation shall provide the capability to automatically search a specified search space when in authenticate mode	D	X					This capability is a COTS feature of the proposed Cogent ABIS.
537.	1/2	The workstation shall provide the capability to automatically include the priority with the search print	D	X					This configurable feature is a COTS feature of the proposed Cogent ABIS.
538.	1/2	The workstation shall provide the capability to include the stored search priority if user does not provide a priority	D	X					Cogent ABIS COTS Workstations can be configured so that searches are performed at a default priority if a specific priority is not associated with the search
539.	1/2	The workstation shall provide the capability to store the search priority locally	D	X					The capability to store search priorities is stored and displayed on the Cogent ABIS Workstations.
540.	1/2	The workstation shall provide the capability to allow Permitted Users to specify priority for a specific print	D	X					This is configurable feature is a component of the Cogent COTS ABIS
541.	1/2	The workstation shall provide the capability to display priorities available to the Permitted User	D	X					Search priorities available to Permitted users are displayed in an on-screen window on the Cogent COTS workstation.
542.	1/2	The default search priority of a workstation shall be configurable	D	X					Search priorities are generally associated with specific transactions, however, a work station can be configured so that all transactions processed on that workstation have a default priority.
543.	1/2	The workstation shall provide the capability to allow Permitted Users to specify a search space	D	X					This is a COTS feature of the proposed Cogent ABIS.

544.	1/2	The workstation shall provide the capability to allow Permitted Users to add prints to a search space	D	X					This is a COTS feature of the proposed Cogent ABIS.
545.	1/2	The workstation shall provide the capability to prevent the addition of prints unless in enrollment mode or requested by a Permitted User	D	X					This is a COTS feature of the proposed Cogent ABIS.
546.	1/2	The system shall provide the capability to set workstation to “authenticate only” mode	D	X					The ability to set a Cogent ABIS Workstation to “authenticate only” mode is a COTS capability similar to “Verification” mode.
547.	1/2	“Authenticate only” mode shall be a configurable item	D	X					Funtionality associated with a Cogent ABIS workstation is configurable.
548.	1/2	The system shall provide the capability to notify the workstation whether a print is authenticated or not at the conclusion of the authentication search	D	X					All search results are displayed on the Cogent ABIS workstation in the Job Status Queue.
	Special Search Spaces								
549.	All	The system shall provide the capability to allow for multiple Special search spaces	D	X					The Cogent COTS ABIS provides for the capability of creating “Special Search Spaces” within the ABIS database.
550.	All	The system shall provide the capability for the User to be able to specify a maximum of 50 Special search spaces	D	X					The Cogent Cots ABIS provides for the creation of a configurable number of search spaces.
551.	1/2	Each Special search space shall be composed of 1-n flat/rolled prints	D	X					This is a COTS feature of the proposed Cogent ABIS.
552.	1/2	The default value for n shall be configurable	D	X					This is a COTS feature of the proposed Cogent ABIS.
553.	1/2	The system shall provide the capability to allow Permitted Users to specify n	D	X					This is a COTS feature of the proposed Cogent ABIS.
554.	1/2	The system shall provide the capability to prevent non Permitted Users from specifying n	D	X					As with other permissions enabled through the use of Cogent’s COTS Account Manager, this capability will be a component of the ABIS being proposed for the SFPD.
555.	1/2	The system shall provide the capability to allow Permitted Users to add prints to Special search spaces	D	X					This is a COTS feature of the proposed Cogent ABIS.
556.	1/2	The system shall provide the capability to prevent Users without proper privilege from adding prints to Special search spaces	D	X					Certain system capabilities can be set as permissive by default, and others restrictive by default as limited or

									granted by the Cogent COTS Account Manager.
557.	1/2	The system shall provide the capability to allow permission for access to Special search spaces to be granted on individual Special search spaces	D	X					Certain system capabilities can be set as permissive by default, and others restrictive by default as limited or granted by the Cogent COTS Account Manager.
558.	1/2	The system shall provide the capability to allow each Special search Space that is not included in existing criminal or civil search spaces to contain a maximum of 10000 subjects' prints.	D	X					This is a configurable COTS feature of the proposed Cogent ABIS.
559.	1/2	The system shall provide the capability for AFIS Administrator/Permitted Users to display a list of the Special search spaces	D	X					Special Search Spaces are defined for logging purposes and can therefore be displayed as a list to authorized users.
Training									
560.	All	The system shall provide the capability to allow for a tenprint training search space	D	X					This is a configurable COTS feature of the proposed Cogent ABIS.
561.	All	The system shall provide the capability to allow for a latent training search space	D	X					This is a configurable COTS feature of the proposed Cogent ABIS.
562.	All	The system shall provide the capability to allow for a image quality training search space	D	X					This is a configurable COTS feature of the proposed Cogent ABIS.
563.	All	Each tenprint search space shall be composed of 1-n flat/rolled prints	D	X					This is a COTS feature of the proposed Cogent ABIS.
564.	All	The default value for n is configurable	D	X					During the search process within Cogent's COTS ABIS, we can filter by various fields such as gender, pattern, finger number, etc., using the search parameters box.
565.	All	The system shall provide the capability to allow Permitted Users to specify n	D	X					The User/Group Manager within Cogent's COTS ABIS solution is used by system administrators to assign specific permissions to Permitted Users. From the search parameters window, the ability to specify "n" will be enabled for Permitted Users.
566.	All	The system shall provide the capability to prevent non Permitted Users	D	X					The User/Group Manager within Cogent's COTS ABIS solution is

		from specifying n							used by system administrators to assign specific permissions to Permitted Users. From the search parameters window, the ability to specify "n" will be disabled for non-Permitted Users.
567.	All	The system shall provide the capability to allow Permitted Users to add/delete prints to training search spaces	D	X					The User/Group Manager within Cogent's COTS ABIS solution is used by system administrators to assign specific permissions to Permitted Users, such as using the ABIS to add/delete prints to training search spaces.
568.	All	The system shall provide the capability to prevent Users without proper privilege from adding/deleting prints to training search spaces	D	X					The User/Group Manager within Cogent's COTS ABIS solution is used by system administrators to grant specific permissions to Permitted Users and prevent system capabilities for non-Permitted Users. The specific functionalities allotted to each system user will be determined according to SFPD business rules.
569.	All	The system shall provide the capability to allow each Training search Space to contain a maximum of 10000 subjects' prints	D			X			**G** – Configuration. Cogent's ABIS database can be partitioned to include a tenprint training search space, sized according to SFPD requirements. This is a minor effort which can be accomplished within by a qualified **Cogent** Technician. This does not require modification to the Cogent source code. The level of complexity for this effort is **Low**.
570.	All	The system shall provide capability to prevent the addition of training prints to non training search spaces	D	X					During system training, upon individual user login, all transactions created will automatically be flagged with a training indicator, based on the user account. Once the transaction has been processed throughout the entire

									workflow and is ready for enrollment into the database, the ABIS will check the transaction's training indicator, stored within the NIST packet, to determine the proper destination for the record.
571.	All	The system shall provide the capability to allow Permitted Users to generate IDs and demographics to be associated with a subjects prints	D	X					This is a COTS feature of the proposed Cogent ABIS. Every new transaction will generate a unique ID and entry fields will be available for Permitted Users to enter demographics associated with a subject's prints.
572.	All	The system shall provide the capability to allow Permitted Users to generate unique IDs for multiple instances of same subjects prints	D	X					This is a COTS feature of the proposed Cogent ABIS. As long as the prints belong to the same subject and result in a match, the system will assign a unique ID to the transaction and link multiple records per subject through the prefix of the subject ID. The prefix may be 123, while the suffix may be a single character that advances incrementally with each instance of the same subject's prints. Cogent delivered the first national ABIS with the capability to store multiple records per enrolled subject to the RCMP.
573.	All	The system shall provide the capability to allow Permitted Users to generate same IDs for multiple subjects prints	D			X			**C** – Customization. Although this is not a current Cogent COTS functionality, this requirement would simply entail the addition of a new field to a database table and can be accomplished in less than **one (1) hour** by a qualified **Cogent** Technician. This does not require modification to the Cogent source code. The level of complexity for this

									effort is **Low**.
574.	All	The vendor shall provide all maintenance, enhancement and training of SFPD staff for 2 years after SFPD accepts system	D	X					Cogent will provide all maintenance, enhancement and training of SFPD staff per the mutually agreed upon provisions of the final contract.
575.	All	The system shall provide the capability of allowing training from any workstation	D	X					This is a COTS feature of the proposed Cogent ABIS. All installed workstations will be capable of performing all system functions. Users will access the appropriate workflow based upon the login information they provide.
576.	All	The system shall provide the capability to determine that an operator is a trainee by User ID at logon	D	X					This is a COTS feature of the proposed Cogent ABIS. Users will access the appropriate workflow based upon the login information they provide. The User/Group Manager within Cogent's COTS ABIS solution is used by system administrators to define operators as trainees.
577.	All	The system shall provide the capability of providing trainees the full functionality of the workstation class they are privileged to work on	D	X					This is a COTS feature of the proposed Cogent ABIS. All installed workstations will be capable of performing all system functions. Users will access the appropriate workflow based upon the login information they provide. The User/Group Manager within Cogent's COTS ABIS solution is used by system administrators to define operators as trainees.
578.	All	The system shall provide the capability of limiting access of trainee processing to training search spaces and training prints only	D	X					The User/Group Manager within Cogent's COTS ABIS solution is used by system administrators to grant and prevent specific permissions for trainees. The specific functionalities allotted to each system user will be determined according to

									SFPD business rules. From the Cogent ABIS query window, the trainee can select the trainee search space from the expandable "tree view" folder structure. This trainee search space would not be visible or accessible for non-trainees.
579.	All	The system shall provide the capability of controlling workflow to ensure that training prints are routed to trainees for a designated process	D	X					The User/Group Manager within Cogent's COTS ABIS solution is used by system administrators to grant and prevent specific permissions for trainees. The specific functionalities allotted to each system user will be determined according to SFPD business rules. Users will access the appropriate workflow based upon the login information they provide. In addition, the ABIS transaction processing queue window can be filtered so that only the transactions associated with the trainee are displayed in the queue.
580.	All	The system shall provide the capability of controlling workflow to stop processing a training print at any process step	D	X					This is a COTS feature of the proposed Cogent ABIS. The system can allow users to stop processing a training print at any process step.
581.	All	The system shall provide the capability to allow Permitted Users to specify processing steps allowed for a print	D	X					The User/Group Manager within Cogent's COTS ABIS solution is used by system administrators to assign specific permissions to Permitted Users, such as specifying the processing steps allowed for a print.
582.	All	The system shall provide the capability of controlling workflow to ensure that non training prints are prevented from being routed to trainees	D	X					The User/Group Manager within Cogent's COTS ABIS solution is used by system administrators to grant and prevent specific

									permissions for trainees. Users will access the appropriate workflow based upon the login information they provide. When the trainee is logged into the system, the ABIS transaction processing queue window can be filtered so that non-training transactions will not be displayed in the queue. If the trainee attempts to access a non-training print, the system will prevent the trainee from opening the print.
583.	All	The system shall provide the capability of controlling workflow to allow training prints to search training search spaces	D	X					Cogent's COTS ABIS is capable of distinguishing training prints from non-training prints. During system training, upon individual user login, all transactions created will automatically be flagged with a training indicator, based on the user account. When the training indicator is present, on a training print, the training print will only search the training search space.
584.	All	The system shall provide the capability of controlling workflow to ensure that training prints never search non training search spaces	D	X					Cogent's COTS ABIS is capable of distinguishing training prints from non-training prints. During system training, upon individual user login, all transactions created will automatically be flagged with a training indicator, based on the user account. When the training indicator is present, on a training print, the training print will not search the non-training search space.
585.	All	The system shall provide the capability of controlling workflow to prevent non training prints from searching training search spaces	D	X					Cogent's COTS ABIS is capable of distinguishing training prints from non-training prints. During system training, upon individual user login,

									all transactions created will automatically be flagged with a training indicator, based on the user account. When the training indicator is not present, on a non-training print, the non-training print will not search the training search space.
586.	All	The system shall provide the capability to allow Permitted Users to submit training prints as submission prints	D	X					The User/Group Manager within Cogent's COTS ABIS solution is used by system administrators to assign specific permissions to Permitted Users, such as submitting training prints as submission prints.
587.	All	The vendor shall provide special training on techniques and strategies for entering minutia and any other user input characteristic	D	X					This is part of Cogent's system training, which will be performed by highly qualified trainers with extensive fingerprint experience. Please see Appendix F Draft Training Plan for detailed information on coursework and training timelines
	Configuration management								
588.	All	The system shall provide CM for Hardware and software System Environment	D	X					Cogent uses SourceSafe for configuration management control. SourceSafe provides life cycle management and control of software development assets. With integrated version control, automated workspace management, parallel development support, baseline management, and build and release management, SourceSafe provides the capabilities needed to create, update, build, deliver, reuse, and maintain business-critical assets. SourceSafe helps increase productivity through parallel development, reduced build/release

									cycle times, and increased software reuse.
589.	All	The system shall limit the AFIS Administrators to be the only users capable of setting configurable items	D	X					The ability to limit the setting of any and/or all configurable items to certain designated users is a capability provided by the Cogent COTS ABIS Account Manager. SFPD ABIS Administrators will, by default, be the only users capable of setting configurable items in the ABIS proposed for the SFPD. The Cogent COTS Account Manager, in conjunction with the system log on, uses permissions which are assigned to specific users, so that when they log on to the system, the users are automatically given permission to perform certain tasks, or to be prevented from performing certain other tasks.
	Miscellaneous								
590.	All	The system shall be capable of processing any type of print search 7 days each week 24 hours per day.	D	X					This is a COTS feature of the proposed Cogent ABIS.
591.	All	The system shall provide the capability to allow Permitted users to select and retrieve the data saved from individual workstations along with date, time, and operator who created data	D	X					A Cogent ABIS Workstation COTS capability allows permitted users to retrieve transaction images and data, including the data defined in the requirement, from individual workstations.
592.	All	The system shall provide the capability to perform all fingerprint related database operations and searches without error when cardprint images are missing particular prints such as amputations etc.	M	X					This capability is a COTS feature of the proposed Cogent ABIS. However, at least two fingers must be present for a Tenprint system search.
593.	All	The system shall provide the capability to decompress compressed images	M	X					The Cogent COTS ABIS has the capability to decompress images received in a compressed format as long as the compression algorithm

									and compression ratio comply with industry standards.
594.	All	The system shall provide the capability to request a print that has already been searched to be searched again without reentering data	D	X					This capability is a COTS feature of the proposed Cogent ABIS. Once a user saves changes made to the original transaction, the transaction can be searched again without the need to re-enter any of the demographic data originally entered and saved.
595.	8	The system shall provide the capability to allow Permitted Users to determine/set how many fingers must pass the image quality test before requesting a rescan of the prints at a Livescan device for image quality checking	D	X					This configurable capability is a COTS feature of the proposed Cogent ABIS
596.	All	The default value for the number of fingers is configurable	D	X					This configurable capability is a COTS feature of the proposed Cogent ABIS
597.	8	The system shall provide the capability to allow Permitted Users to determine/set which specific fingers must pass the image quality test before requesting a rescan of the prints at a Livescan device for image quality checking	D	X					This configurable capability is a COTS feature of the proposed Cogent ABIS
598.	All	The default value for which fingers is configurable	D	X					This configurable capability is a COTS feature of the proposed Cogent ABIS
599.	All	The system shall convert and store images in compliance with FBI and NIST image quality standards	D	X					This is a COTS feature of the proposed Cogent ABIS.
600.	All	The system shall assign a unique identifier to each print entering the system	D	X					This is a COTS feature of the proposed Cogent ABIS.
601.	All	The system shall provide the capability to store unknown deceased prints	D	X					This is a COTS feature of the proposed Cogent ABIS.
602.	All	The system shall provide the capability to identify unknown deceased prints as such	D	X					Identifying persons associated with Tenprint transactions is a configurable capability in the Cogent COTS ABIS.
603.	All	The system shall provide the capability to group any set of searches into batches that can be tracked as an entity	D	X					This is a COTS feature of the proposed Cogent ABIS, and is used primarily in latent processing.

604.	All	The system shall provide the capability to send a notification to the submitter when one of the prints in a batch has begun search processing.	D	X					System users are notified of the status of individual and batch transactions in the "Print Processing Window" once they have been submitted for ABIS processing. As prints are processed, the Cogent COTS ABIS assigns a job status to the transaction indicating the transaction's current state in the workflow.
605.	All	The system shall provide the capability to send a notification to the submitter when all the prints in a batch have completed search processing	D	X					This is provided in the status portion of the "Print Processing Window", as noted in the aforementioned response to requirement #604.
606.	All	The system shall provide the capability to allow threshold values for each operators work queue	D			X			**G** – Configuration. The reponse to this requirement and the following requirements #607 through 612 are written in the context that the term "threshold values" as used within these requirements is referring to the job queue assigned for each operator or workstation, and not system thresholds as they refer to autohits/identification values. The Cogent COTS workflow currently displays transactions needing operator intervention on system workstations where any operator, with permission, can view and/or work on the transaction. The capability to set threshold values for specific individual operators work queues is not currently available but can be provided. Cogent recommends that discussions involving the SFPD staff and Cogent technicians be completed before decisions to proceed with work flow changes needed to provide for this

									requirement are initiated. This will ensure that the functionality as desired by the SFPD is fully understood prior to development. Providing for this requirement and the following associated requirements as defined in #607 through #612, has a **Low** level of complexity which can be accomplished by a **Cogent** Technician and will require approximately **20 hours** to complete.
607.	All	The system shall provide the capability to allow Permitted Users to set the threshold values	D	X					Threshold values as they pertain to each operators work queue are configurable and can be set by Permitted Users as desired.
608.	All	The default value for the threshold values is configurable	D	X					Threshold default values as they pertain to the work queue are configurable and can be set by Permitted Users.
609.	All	The system shall provide the capability to notify AFIS administrators when an operator work queue reaches its threshold.	D			X			**G** – Configuration. Providing this notification will require minor changes to the Cogent ABIS COTS notification mechanism. Cogent recommends that this desired requirement be discussed during the detail design phase of this project. These changes will be completed by a **Cogent** Technician as the associated requirements #606, #609 through #612 are configured. The level of complexity for this effort is **Low**.
610.	All	The system shall provide the capability to retain work destined for work queues that have reached their threshold	D			X			**G** – Configuration. Providing this notification will require minor changes to the Cogent ABIS COTS notification mechanism. Work queues are retained on the server side of the Cogent COTS ABIS. The only limitation to the queue is the size of

									the disk storage.. The changes needed to provide this desired requirement will be completed by a **Cogent** Technician as the associated requirements for items #606, #609 through #612 are configured. The level of complexity for this effort is **Low**.
611.	All	The AFIS Administrator shall be provided the capability to determine where to retain work destined for work queues that have reached their threshold	D			X			**G** – Configuration. Providing this capability will require minor changes to the Cogent COTS work flow. Work queues are retained on the server side of the COTS ABIS As previously noted; currently the only limitation to the queue size is the disk storage. These changes will be completed by a **Cogent** Technician as the associated requirements for items #606, #609 through #612 are configured. The level of complexity for this effort is **Low**.
612.	All	The AFIS Administrator shall be provided the capability to redistribute retained work destined for work queues that have reached their threshold	D			X			**G** – Configuration. Providing this notification will require minor changes to the Cogent COTS work flow. These changes will be completed by a **Cogent** Technician as the associated requirements for items #606, #609 through #612 are configured. The level of complexity for this effort is **Low**.
613.	All	The system shall provide the capability to retain search results until submitter acknowledges they have completed current activities	D	X					Cogent ABIS search results are retained at the server level until such time when the transaction is closed, at which time the necessary system and database updates are automatically made.
614.	All	The system shall provide the capability to archive search results	D	X					Search results are automatically archived to Archive Systems

									designataed by the user agency as a COTS capability.
615.	All	The system shall provide the capability to allow Permitted Users to generate any allowable text for any demographic field of any subjects prints	D	X					Permitted users are able to generate allowable text from pull down windows as well as appending notes to the transaction by use of the "Print Processing" window.
	Miscellaneous Search Space Requirements								
616.	1/2	The system shall provide the capability to limit which search spaces are selectable by which permitted user	D			X			**G** – Configuration. This is a configurable capability which will require minor modifications to Cogent COTS ABIS tables and the COTS Account Manager. Modifications needed will be completed by a **Cogent** Technician. It is done as part of the configuration for the SFPD system. The level of complexity for this effort is **Low**.
617.	1/2	The system shall provide the capability to automatically add criminal and civil/applicant correctly to either the criminal or civil/applicant search space	D	X					Providing the capability to automatically add criminal and civil/applicant files to their appropriate search space areas is a configurable feature provided by the Cogent COTS ABIS.
618.	1/2	The system shall provide the capability to automatically add latents correctly to either the quality or nonquality latent search space	D	X					The capability to automatically add quality or nonquality latent files to their appropriate search space areas is provided by the Cogent COTS ABIS.
619.	1/2	The system shall provide the capability to allow a Permitted user to specify which Authentication search space authentication prints should be added to	D	X					This configurable capability is a COTS feature of the proposed Cogent ABIS.
620.	1/2	Prints may be selected from existing search spaces for addition to or inclusion in an Authentication search space	D	X					This configurable capability is a COTS feature of the proposed Cogent ABIS.
621.	1/2	The system shall provide the capability to allow selected Livescan devices to be used for enrolling/adding prints to an Authentication search space	D	X					This configurable capability is a COTS feature of the proposed Cogent ABIS.

622.	1/2	The system shall provide the capability to include specified non-criminal search spaces or special search spaces as search space for automatic search of new criminal prints	D	X					The capability for creating special search spaces is a configurable item available in the Cogent COTS ABIS.
	Data Integrity								
623.	All	The system shall provide capability to prevent data/images from being lost including during conversion	M	X					Cogent has extensive experience in converting fingerprint databases both in digital and hard copy (paper) formats, as well as experience converting large databases such as Los Angeles County and the Royal Canadian Mounted Police. This experience will be applied when converting the SFPD database to ensure that all original data will be retained in the original format for each record converted. Paper records will be scanned and returned to the client. Bulk electronic data will be copied to DLT or appropriate media. Images and data in each record will be accurately reproduced using applicable established ANSI-NIST standards.
624.	All	The system shall provide capability to prevent legacy data from being corrupted including during conversion	M	X					Relying on experience and lessons learned in previous conversion efforts, Cogent will accurately copy legacy data and records without altering the original records. As records are converted, selected records will be run against the new database to confirm the accuracy of the conversion. All usable information will be copied to a DLT or appropriate media for adaptation and inclusion into the new NIST compliant SFPD ABIS database.

625.	All	The system shall provide capability to ensure legacy converted data correctly represents the original data	M	X					Cogent will demonstrate accurate conversion of legacy data for the initial conversion, in addition to any supplemental database entry and/or entries. All data will be subject to incremental quality control review, in addition to tests and/quality control functions specified in Technical Specifications Section 4.1.5, 4.1.6.4, 4.2.4.1.6. , 4.2.6, 4.2.6.1, 4.3.4.1.5, 4.3.4.1.6, and 4.3.6, and 4.3.6.1. Incremental quality control tests will be further refined during detail design.
	Recovery								
626.	All	The system shall provide capability to continue operation with single failures in a degraded but still viable operational but somehow degraded mode	M	X					The Cogent COTS ABIS proposed for the SFPD will be comprised of an ABIS Primary system and a Mirror system, which replicates hardware processing and data storage capabilities for increased system reliability and operating efficiencies to ensure continued operation in the unlikely event the system experiences a single failure. The ABIS Central Segment operates in an active-active processing mode, such that each component maintains a complete copy of the ABIS database and actively performs database synchronization and fingerprint identification search processing capabilities.
627.	All	The system shall provide capability to recover from a disaster within 24 hours in degraded mode	D	X					The Cogent ABIS backup and recovery software is IBM's Tivoli Storage Manager (TSM). TSM integrates unattended network backup, archive capabilities, and

									powerful disaster recovery functions, enabling the capability for the Cogent ABIS installed at the SFPD to recover from a disaster and begin operating in a degraded mode within 24 hours.
628.	All	Upon recovery, the system shall provide capability to automatically restart transactions in process at time of failure	D	X					The Cogent COTS ABIS backup system consists of backing up operating systems (i.e., Linux, Window Server, and Windows XP) and backing up the ABIS itself (i.e., data in the Oracle database, NIST record, ABIS binaries, and configuration), all of which enable the Cogent COTS ABIS to automatically restart transactions which were in process at the time of failure.
	System Administration								
629.	All	AFIS administrator can perform software upgrades to workstations from central site	D	X					Cogent's software feature for this request is called 'rsync'. Rsync is a configurable option for Version 5.5 proposed. A synchronization client on each machine will download and sync from a centralized repository. The administrator/support engineer would place the patch or changes into the repository, the synchronization would then be automatic.
630.	All	Vendor shall provide on site support during development and maintenance	D	X					Cogent will comply with this requirement. **Support and Maintenance** Cogent's maintenance support for the SFPD-FSD AFIS hardware and software will exceed the elements of the SFPD-FSD Support and Maintenance requirements. Cogent's comprehensive maintenance and support program provides for the support of the AFIS system

									equipment and software components throughout the system's full lifecycle. A highly trained AFIS technician will be stationed on-site to ensure that all components of the AFIS are maintained and in good working order. The Cogent plan includes regularly scheduled preventive maintenance to ensure that the AFIS components continue operating at their optimum. The comprehensive preventive maintenance approach employed by Cogent ensures that potential problems are identified early and remedies are taken before potential problems cause any interruption to the operations. To maximize system uptime, spare parts kits, containing all critical parts, are strategically positioned thereby facilitating expedited defective component replacements. Formalized system configuration management processes are utilized to maintain system change control, software version management and system recovery backup and restore procedures. **Preventative Maintenance** Cogent's preventive maintenance program adheres to the original equipment manufacturers' published specifications. Preventive maintenance of the central identification system and networked workstation components is scheduled and performed on a regular basis. Cogent focuses on the care and

									servicing of the AFIS components by highly trained and experienced professional personnel for the purpose of maintaining the equipment and software in satisfactory operating condition. This is accomplished by providing systematic inspection, detection, and correction of incipient failures either before they occur or before they develop into major defects. Preventive Maintenance (PM), including tests, measurements, adjustments, and parts replacement, is performed specifically to prevent faults from occurring. A primary goal of PM is to avoid or mitigate the consequences of equipment failure. This may be done by preventing the failure before it actually occurs, which regularly scheduled PM and condition-based maintenance will help to achieve. The Cogent PM approach is designed to preserve and restore equipment reliability by replacing worn components before they actually fail. PM activities include partial or complete overhauls at specified periods, regular partial and full system backups and regular updating of virus signature files. In addition, analysis and reporting will be performed against the results of the backup activities and the antivirus procedures to allow for resolution of any underlying issues and to keep management fully informed of all findings. Electronic logs, which personnel are required to complete

									upon conclusion of the required maintenance activities, are established. Cogent also provides support services to accomplish the tasks necessary to keep its AFIS in good operating condition with minimal downtime. These tasks include, but are not limited to cleaning, lubrication, adjustment, calibration, minor repairs, and replacement of components. **Repair/Replacement of Defective Components** Cogent will be responsible for repair or replacement of any defective components that have failed completely or have required remedial attention more than three times in any 30-day period. Cogent provides a warranty for the system for 12 months and accepts full responsibility for all components of the system. Cogent will secure warranty repairs and replacements for any applicable manufacturer's warranty programs and will deliver maintenance services in accordance with to applicable external manufacturer's warranties. **Software Maintenance** Cogent will support all software installed within the AFIS – its own software as well as commercial off-the-shelf (COTS) software – for the duration of the initial and extended warranty periods. SFPD-FSD will be consulted and must consent prior to

									the correction, update, or upgrade of any software by Cogent. 1. Cogent will provide software maintenance that addresses the modification of the software product after delivery to correct faults, to improve performance or other attributes, or to adapt the product to a modified environment. The on-site technician will assist in the determination of the necessity of applying critical and routine software updates. Our formal change management process will ensure proper scheduling is in place and that all SFPD-FSD approvals have been obtained before any software modifications take place.
	Standards All AFIS components shall be designed to meet the following public standards								
631.	All	FBI WSQ Gray-Scale Image Compression Specification (IAFIS-IC-001v2, February 16, 1993).	M	X					Cogent's ABIS proposed solution stores records in 100% NIST-compliant formats to ensure that SFPD has full access to its records without restriction resulting from proprietary compression or encoding schemes. Please refer to Appendix B for the certification.
632.	All	ANSI Standard, Data Format for the Interchange of Fingerprint, Facial, and Scar-Mark-and-Tattoo (SMT) Information (ANSI/NIST-ITL 1-2007).	M	X					Cogent complies. Please refer to Appendix A for the certification.
633.	All	The fingerprint, Palmprint, latent features shall be in the ANSI/NIST CDEFFS open standard format and accessible by SFPD	M	X					Cogent complies. While the ANSI/NIST CDEFFS is a standard

									that is still in development within the ABIS community what Cogent uses is already part of this standard. Cognet will have full support when the ANSI/NIST CDEFFS standard has been finalized.
634.	All	FBI Electronic Fingerprint Transmission Specification (EBTS) (IAFIS-DOC-01078-8.002 APRIL 1, 2008), including Appendix F image quality specifications.	M	X					Cogent complies. Please refer to Appendix A for the certification.
635.	All	FBI NCIC CJIS WAN Protocol Specification and IAFIS telecommunications standards that specify use of TCP/IP, availability of FTP, and X.25 capability	M	X					Cogent complies. Please refer to Appendix A for the certification.
636.	All	All data transmitted external to AFIS shall be in ANSI NIST and FBI EBTS	M	X					Cogent complies. Please refer to Appendix A for the certification.
637.	All	The system shall use latest EBTS version compatible with FBI	M	X					Cogent complies. Please refer to Appendix A for the certification.
	System Privileges This section deals with requirements related to privileges that are available to various users and how the system grants and denies privilege. Privilege deals with granting permission to perform processes.								
638.	All	The system shall provide capability to limit the SFPD users access rights to only the workstation functions that they are privileged to perform work on.	D	X					Consistent with the COTS Cogent ABIS, the client (SFPD) may assign one or more Systems Administrators. The Systems Administrator(s) will assign a user ID and password to each to the each user. The System Administrator will assign the system privileges that will be attached to each user. The systems privileges will be based on policy, rules and types (latent examiner, supervisor, exception handler, etc) and decided upon by SFPD during the configuration phase of the solution.
639.	All	Access rights shall determine the functionality of the user of the individual workstation	D	X					This is a Cogents COTS ABIS function. The functionality of the end-user will be determined by the access rights limited by the workstation.

640.	All	The system shall provide the capability to grant access rights by privilege, proper identification and authentication	D	X					The system, as a COTS function will grant access rights by policy/rules associated by individuals or groups (please refer to first answer #638). Proper Identification will consist of user name, password and optionally fingerprint.
641.	All	The system shall provide the capability to authenticate based upon ID and password	D	X					This capability is a COTS feature of the proposed Cogent ABIS. Please refer to answers 638-640.
642.	All	The system shall provide the capability to authenticate based upon biometric authentication	D	X					The capability to use biometric authentication is a Cogent Cots configurable option.
643.	All	The system shall provide the capability to provide privileged functions based upon user type(e.g. latent supervisor, latent examiner, exception handler etc) with the AFIS Administrator being the most privileged	D	X					This functionality is a COTS feature of the proposed Cogent ABIS. Rules, policies and types will be determined during the configuration phase of the project.
644.	All	The system shall provide the capability to limit search submissions to “Designated Users”	D	X					This functionality is a COTS feature of the proposed Cogent ABIS. Rules, policies and types will determine the limitations of the designated users. This will be determined during the configuration phase of the project.
645.	All	The system shall provide the capability to accept search submissions from “Designated Users”	D	X					This functionality is a COTS feature of the proposed Cogent ABIS.
646.	All	Designated Users shall be a configurable item	D	X					This functionality is a COTS feature of the proposed Cogent ABIS.
647.	All	The system shall provide the capability for Permitted Users to set Designated User for a particular search.	D	X					This functionality is a COTS feature of the proposed Cogent ABIS.
648.	All	The system shall provide the capability to distinguish Designated Users by ID and Authentication	D	X					This functionality is a COTS feature of the proposed Cogent ABIS.
649.	All	The system shall provide the capability to limit Designated Users to be SFPD designated personnel or SFPD designated external agencies	D	X					This functionality is a COTS feature of the proposed Cogent ABIS.
	Throughput Performance								

	This section deals with the speed at which processes can be performed. Speed is very dependent upon workload. Due to lack of workload details over other time periods, the requirements are based upon average weekly workloads. workloads specified in the workload section. The requirements also specify the frequency of highest priority prints to be no more often than one highest priority print every 6 minutes.								
	Workload Restrictions For all throughput performance measurements and calculations only the following workload restrictions apply:								
650.	1/2	highest priority prints shall not constitute more than 10% of the workload	D	X					This is a COTS feature of the proposed Cogent ABIS.
651.	1/2	highest priority prints shall not occur more frequently than every 6 minutes	D	X					Cogent's ABIS solution fulfills this requirement with no modification. The speed and flexibility of the Cogent COTS Programmable Matching Accelerator (PMA) provides for processing speeds which will accommodate processing of "High Priority" prints at a rate faster than the desired requirement.
652.	1/2	Each identity search requirement shall be tested in independent tests. That is, for example, highest priority will occur only on tenprints during one test and only on latents in another independent test	D	X					Cogent's understands the SFPD requirement for testing. The ABIS solution proposed complies with this requirement without modification.
653.	1/2	Ad hoc image requests shall not constitute more than 5% of the total image requests	D	X					This is a COTS feature of the proposed Cogent ABIS.
654.	1/2	Ad hoc image requests shall not occur more frequently than every 5 minutes	D	X					This is a COTS feature of the proposed Cogent ABIS.
655.	1/2	Search times shall be measured from the time that a search enters the AFIS portion of the system until the results are returned out of the AFIS portion of the system	D	X					This is a COTS feature of the proposed Cogent ABIS.
656.	1/2	Image retrieval time shall be measured from the time the user requests an image until the image is displayed on the users screen	D	X					This is a COTS feature of the proposed Cogent ABIS.
657.	1/2	**Tenprint-Tenprint** - The system shall complete the search of a tenprint or palm print that has the highest priority set in less than 10 minutes 95% of the time averaged over an average one week workload specified in this document on a database of 500,000 subjects.	D	X					This is a COTS feature of the proposed Cogent ABIS. Search response times for all Tenprint-Tenprint searches of the ABIS proposed for SFPD will be

									less than 4 minutes. High priority Tenprint-Tenprint search response times will be significantly faster, depending on the number of High Priority searches submitted to the ABIS in a particular time period.
658.	1/2	**Latent finger** The system shall complete the search of a latent print that has the highest priority set in less than 2 hours 95% of the time averaged over an average one week workload on a database of 500,000 subjects	D	X					Cogent's COTS ABIS solution will exceed this requirement without modification.
659.	1/2	**Latent flat Palm** The system shall complete the search of a latent print that has the highest priority set in less than 2 hours 95% of the time averaged over an average one week workload on a databaseof10,000 subjects	D	X					Cogent's COTS ABIS solution will exceed this requirement without modification.
660.	1/2	**Authentication** The system shall complete the search of a print for authentication in less than 13 second 95% of the time averaged over one week workload on a database of 500 subjects	D	X					This is a COTS feature of the proposed Cogent ABIS.
661.	1/2	**Image Retrieval** • The system shall complete the display of a match candidate image in less than 1 second of requesting image averaged over an average one week workload on a database of 600,000 subjects • The system shall complete the display of an image associated with an ad hoc image request in less than 1 minute after requesting the image averaged over 1000 ad hoc requests against a database of 600,000 subjects • The system shall complete the display of a match candidate image from digitized microfilm in less than 1 second of requesting image averaged over 1000 images requested on a database of 500,000 subjects.	D	X					This is a COTS feature of the proposed Cogent ABIS.
	Performance Monitoring								
662.	All	The system shall provide the capability for providing statistics on Users and the system. Statistics shall include: • number of verifications • search time • number of latents searched	D			X			**C** – Customization. The Cogent COTS ABIS proposed for SFPD includes audit and reporting capabilities that already provide many of the listed statisitics. However, providing all of the statistics desired will require changes to current tables and

		• number of latents encoded • number of criminal searches • number of civil/applicant searches • number of prints added to search space • response time • quality of print images • court documents prepared • number of prints allocated to a particular priority • percentage of correct matches • size of search spaces • demographics of hits • network performance System Administration • processor performance System Administration • storage performance System Administration • unauthorized access attempts • time spent in queues							modification of the COTS work flow as it pertains to audit and reporting capabilities. This is a minor effort and will be provided by a **Cogent** Technician. The time effort is estimated to be less than **20 hours**. The level of complexity for this effort is **Low**.
663.	All	The system shall provide the capability for providing these statistics in terms of average, minimum, and maximum	D			X			**C** – Customization. This will be provided when the customization needed for compliance with aforenoted requirement #662 are completed. The level of complexity for this effort is **Low**.
664.	All	The system shall provide the capability for providing these statistics over specified time period	D	X					This is a COTS feature of the proposed Cogent ABIS.
665.	All	The system shall provide the capability for providing these statistics over specified search spaces	D	**X**					This is a COTS feature of the proposed Cogent ABIS.
666.	All	The system shall provide the capability for providing these statistics over specified fingers or palms	D	**X**					This is a COTS feature of the proposed Cogent ABIS.
667.	All	The system shall provide the capability for providing these statistics for a specified user or class of user	D	**X**					This is a COTS feature of the proposed Cogent ABIS.
668.	All	The system shall provide the capability for providing these statistics over specified demographics	D	**X**					This is a COTS feature of the proposed Cogent ABIS.
669.	All	The system shall provide the capability for providing the above statistics for the following specified search types • tenprint(1-n fingers)	D	**X**					This is a COTS feature of the proposed Cogent ABIS.

		• latent • latent palm • FPID (Fixed Post identification) • authentication							
	Search This section deals with requirements related to the actual search process where a print is compared to other prints in a search space to determine if it is a candidate or an ident. That is, does it match or not and with what confidence								
670.	All	System shall provide the capability to maintain selected non-criminal prints that comprise a separate search space.	D	X					This is a COTS feature of the proposed Cogent ABIS.
671.	All	The system shall provide the capability to allow Permitted Users to select non criminal prints or types of prints to be maintained	D	X					This is a COTS feature of the proposed Cogent ABIS.
672.	All	The system shall provide the capability to prevent the selection of non criminal prints or types of prints to be maintained by non Permitted Users	D	X					This is a COTS feature of the proposed Cogent ABIS.
673.	All	The system shall provide the capability to allow the Permitted Users to specify the search space sequence. e.g. M/F, 1 print then 2 print then 8 prints etc	D			X			This capability is a COTS feature of the proposed Cogent ABIS. Providing the capability as a manual option allowing Permitted Users the ability to specify the sequence as defined will require modification to the Cogent COTS work flow. This will be a minor effort which will be completed by a **Cogent** Technician and will require less than **20 hours** to complete. The level of complexity for this effort is **Low**.
674.	All	The system shall provide the capability to maintain selected prints in search spaces called “special”. Typical user would be latent examiner or authentication search spaces such as DOC for holds or other user authentication, deceased, expunged etc .	D	X					This is a COTS feature of the proposed Cogent ABIS.
675.	All	The system shall provide the capability to prevent non Permitted Users to searches on the non-criminal search space	D	X					This is a COTS feature of the proposed Cogent ABIS.
676.	All	The system shall provide the capability to accept search space delimiters when a print is submitted for a Search to AFIS.	D	X					This is a COTS feature of the proposed Cogent ABIS.
677.	All	If delimiters are not set by search request, the system shall provide the capability to set the search space delimiters to default values when a print is submitted for	D	X					This is a COTS feature of the proposed Cogent ABIS.

		a Search to AFIS.							
678.	All	The default value of the delimiter shall be configurable (A typical default value would be the full criminal search space)	D	X					This is a COTS feature of the proposed Cogent ABIS.
679.	1/2	The system shall provide the capability to search rolled prints	M	X					This is a COTS feature of the proposed Cogent ABIS.
680.	1/2	The system shall provide the capability to search flat prints	M	X					This is a COTS feature of the proposed Cogent ABIS.
681.	1/2	The system shall provide the capability to search palm prints	M	X					This is a COTS feature of the proposed Cogent ABIS.
682.	1/2	The system shall provide the capability to search latent prints	M	X					This is a COTS feature of the proposed Cogent ABIS.
683.	1/2	The system shall provide the capability to add all prints from each arrests to criminal search space	D	X					This is a COTS feature of the proposed Cogent ABIS.
684.	1/2	The system shall provide the capability to link prints to a particular arrest	D	X					This is a COTS feature of the proposed Cogent ABIS.
685.	1/2	The system shall provide the capability to allow Permitted Users to identify as deleted or delete prints from the search space	D	X					This is a COTS feature of the proposed Cogent ABIS.
686.	1/2	The system shall provide the capability to prevent users who are not Permitted Users to identify as deleted or delete prints from the search space	D	X					This is a COTS feature of the proposed Cogent ABIS.
687.	1/2	System shall provide the capability to retain prints but identify them as deleted	D	X					This is a COTS feature of the proposed Cogent ABIS.
688.	1/2	System shall provide the capability for Permitted Users to delete prints	D	X					This is a COTS feature of the proposed Cogent ABIS.
689.	1/2	The system shall provide the capability to specify what valid subsets of the search space shall be searched against	D	X					This is a COTS feature of the proposed Cogent ABIS.
690.	1/2	The system shall provide the capability to identify a “training” fingerprint and not enter it into any non training search space	D	X					This is a COTS feature of the proposed Cogent ABIS.
691.	1/2	The system shall provide the capability to allow Permitted Users to add prints as training prints to training search spaces	D	X					This is a COTS feature of the proposed Cogent ABIS.
692.	1/2	The system shall provide the capability to store prints in a non-searchable database	D	X					This is a COTS feature of the proposed Cogent ABIS.
693.	1/2	The system shall provide the capability to allow Permitted Users to designate particular Livescan devices for Authentication searches	D	X					This is a COTS feature of the proposed Cogent ABIS.
694.	1/2	The system shall provide the capability to automatically perform an authentication search from Livescan workstations designated as Authentication workstations	D	X					This is a COTS feature of the proposed Cogent ABIS.

695.	8	The system shall provide the capability to allow Permitted Users to designate particular Livescan devices for identification searches	D	X					This is a COTS feature of the proposed Cogent ABIS.
696.	8	The system shall provide the capability to automatically perform an identification search from Livescan workstations designated as submission workstations	D	X					This is a COTS feature of the proposed Cogent ABIS.
697.	All	The system shall provide the capability to index/key/point from the characteristics of a print to the images, text, and other data associated with a subjects prints	D	X					This is a COTS feature of the proposed Cogent ABIS.
	Security								
698.	All	Authentication security shall be provided by a password-based logon access control system.	D	X					This is a COTS feature of the proposed Cogent ABIS.
699.	All	The system shall provide the capability to maintain an audit trail including user ID, date, terminal, and time of all logons and attempted logons	M	X					The Cogent COTS ABIS proposed for SFPD includes audit and reporting capabilities for the desired data.
700.	All	The system shall provide the capability to maintain an audit trail of all data additions, modifications, or deletions including user ID, date, and time of entry.	M	X					The Cogent COTS ABIS proposed for SFPD includes audit and reporting capabilities for the desired data.
701.	All	The system shall provide the capability to allow modification of the User's Security Files by AFIS Administrator or other Permitted users.	D	X					This is a COTS feature of the proposed Cogent ABIS.
702.	All	The system shall provide the capability to prevent changes to terminal access limitations by non Permitted users	D	X					This is a COTS feature of the proposed Cogent ABIS.
703.	All	The system shall provide the capability to limit access to use of its AFIS to specific designated sites/systems	D	X					This is a COTS feature of the proposed Cogent ABIS.
704.	All	The site/systems access list is configurable	D	X					This is a COTS feature of the proposed Cogent ABIS.
705.	All	The system shall provide the capability to allow Permitted Users to specify which designated sites/systems individuals have access to	D	X					This is a COTS feature of the proposed Cogent ABIS.
706.	All	The system shall provide the capability to log users off after n minutes of inactivity,	D	X					This is a COTS feature of the proposed Cogent ABIS.
707.	All	n shall be configurable	D	X					This is a COTS feature of the proposed Cogent ABIS.
708.	All	The system shall provide the capability to ensure that the disposition fingerprint match process should find the same match candidates as the arrest fingerprint match process..	D	X					This is a COTS feature of the proposed Cogent ABIS.
	Preparation for Search								
709.	1/2/	The system shall provide the capability for Permitted Users to select any single	D	X					This is a COTS feature of the proposed

	3	print by any unique print ID number maintained by the system accompanied by finger or palm number							Cogent ABIS.
710.	1/2/3	The system shall provide the capability for Permitted Users to select any set of prints by any unique print ID number maintained by the system	D	X					This is a COTS feature of the proposed Cogent ABIS.
711.	1/2/3	The system shall provide the capability for a Permitted User to enhance images and manipulate images	D	X					This is a COTS feature of the proposed Cogent ABIS.
712.	1/2/3	The system shall provide the capability for a Permitted User to enter minutia and any other manually entered characteristics required or allowed by vendor	D	X					This is a COTS feature of the proposed Cogent ABIS.
713.	1/2/3	The system shall provide the capability for a Permitted User to enter minutia quality	D	X					This is a COTS feature of the proposed Cogent ABIS.
714.	1/2/3	The system shall provide the capability for potential match candidates that result from a latent search to be sent to each submitters queue	D	X					This is a COTS feature of the proposed Cogent ABIS.
715.	1/2/3	The system shall provide the capability for potential match candidates that result from a latent search to be retained in the system	D	X					The Cogent COTS ABIS retains potential match candidate information resulting from latent searches in work queues. The information is also retained by the ABIS in audit and reporting files.
716.	1/2/3	The system shall provide the capability for potential match candidates that result from a latent search to be associated with the latent case ID	D	X					This is a COTS feature of the proposed Cogent ABIS.
717.	1/2/3	The system shall provide the capability for potential match candidates that result from a latent search to be to be deleted when the latent case is closed	D	X					This is a COTS feature of the proposed Cogent ABIS.
718.	1/2/3	The system shall provide the capability to prevent the potential match candidates that result from a latent search to be to be deleted until the latent case is closed	D	X					The Cogent ABIS COTS latent work flow is configurable. The desired requirement will be included in the SFPD as described.
719.	1/2/3	The system shall provide the capability to display the potential match candidates on personal submitter queues	D	X					This is a COTS feature of the proposed Cogent ABIS.
720.	1/2/3	The system shall provide the capability to display original submitted print and a potential match print simultaneously on a split screen	D	X					This is a COTS feature of the proposed Cogent ABIS.
721.	1/2/3	The system shall provide the capability to allow a Permitted User to indicate that a potential matching print is an ident	D	X					This is a COTS feature of the proposed Cogent ABIS.
722.	1/2/3	The system shall provide the capability to allow a Permitted User to delete a potential matching print from their list of potential matching prints on the personal submitter queue	D	X					This is a COTS feature of the proposed Cogent ABIS.
723.	1/2	The system shall provide the capability to automatically search idents against	M	X					This is a COTS feature of the proposed

		ULF(called a reverse search)							Cogent ABIS.
724.	1/2/3	The system shall provide the capability to automatically return candidates and associated information that exceed threshold for a reverse search to the submitters candidate queues/contributing agencies candidate queues	M	X					This is a COTS feature of the proposed Cogent ABIS.
725.	1/2/3	The system shall provide the capability to automatically notify submitters/contributing agencies when a candidate is found for a latent during a reverse search	M	X					This is a COTS feature of the proposed Cogent ABIS.
726.	1/2/3	The system shall provide the capability to prevent a non Permitted User to view personal queues	D	X					This is a COTS feature of the proposed Cogent ABIS.
727.	1/2/3	The system shall provide the capability to allow Permitted Users to display results of searches by requesting specific results by any search print ID maintained by the system	D	X					This is a COTS feature of the proposed Cogent ABIS.
728.	1/2/3	The system shall provide the capability to allow Permitted Users to display results of searches by scrolling on a personal queue and clicking on the desired print	D	X					This is a COTS feature of the proposed Cogent ABIS.
729.	1/2/3	The system shall allow Permitted Users to display the results of searches on personal submitter queues by requesting the next print on the queue	D	X					This is a COTS feature of the proposed Cogent ABIS.
730.	1/2/3	The system shall provide the capability for Permitted Users to display any single print by any unique print ID number maintained in the system accompanied by finger number or palm type	M	X					This is a COTS feature of the proposed Cogent ABIS.
731.	1/2/3	The system shall provide the capability for Permitted Users to display any set of prints by any unique print ID number maintained by the system	M	X					This is a COTS feature of the proposed Cogent ABIS.
732.	1/2/3	The system shall provide the capability to allow Permitted Users to display images associated with a latent case by requesting any Latent ID maintained by the system	M	X					This is a COTS feature of the proposed Cogent ABIS.
733.	1/2/3	The system shall provide the capability to allow Permitted Users to display the image of a latent submission and the print of the associated potential matches.	M	X					This is a COTS feature of the proposed Cogent ABIS.
734.	1/2/3	The system shall provide the capability to allow Permitted Users to display associated images by requesting latent case	M	X					This is a COTS feature of the proposed Cogent ABIS.
735.	1/2/3	The system shall provide the capability to allow Permitted Users to indicate which latent prints have been eliminated from consideration as belonging to suspects	M	X					This is a COTS feature of the proposed Cogent ABIS.
736.	1/2	The system shall provide the capability to allow Permitted Users to indicate which latent prints belong to suspects	D	X					This is a COTS feature of the proposed Cogent ABIS.
737.	1/2	The system shall provide the capability to allow for the creation of an unsolved latent file (ULF). This file contains the prints and characteristics/features of latent prints (with connections to associated information).	M	X					This is a COTS feature of the proposed Cogent ABIS.

738.	1/2	The system shall provide the capability to automatically add prints belonging to suspects to the appropriate ULF	M	X					This is a COTS feature of the proposed Cogent ABIS.
739.	1/2	The system shall provide the capability to allow Permitted Users to select prints for addition to ULF or special search spaces.	M	X					This is a COTS feature of the proposed Cogent ABIS.
740.	1/2	The system shall provide the capability to allow the person or agency that contributed a print to the ULF to delete that print.	D	X					This is a COTS feature of the proposed Cogent ABIS.
741.	1/2	The system shall provide the capability to automatically remove a latent print from the ULF when a positive identification has been made with that print.	M	X					This is a COTS feature of the proposed Cogent ABIS.
742.	1/2	The system shall provide the capability to fuse the results of separately entered/stored latent characteristics and minutia into a composite of these characteristics and minutia	D			X			**G** – Configuration. This desired requirement "fusing separately entered and/or stored latent characteristics into a composite of characteristics" is not clearly understood, therefore, Cogent is not able to determine whether or not this is a COTS feature. Cogent recommends that this requirement be the subject of additional discussion during the detail design phase of this project. It appears to be a work flow issue and Cogent is confident that only minor work flow modifications, if any, will be needed to provide this requirement to the SFPD. If correctly understood, the work flow modifications required to provide this feature for the SFPD will require less then **20 hours** of work performed by a **Cogent** Technician. The level of complexity for this effort is **Low**.
743.	1/2	The system shall provide the capability to retain the fused set of characteristics identified as fused	D			X			**G** – Configuration. Providing this desired functionality will necessitate some minor work flow changes which will be completed by a **Cogent** Technician when completing the work needed for requirement #742. The level of complexity for this effort is **Low**.

744.	1/2	The system shall provide the capability to identify the source characteristics from which the fused set was derived	D			X			**G** – Configuration. Providing this desired functionality will necessitate some minor work flow changes which will be completed by a **Cogent** Technician when completing the work needed for requirement #742 and 743, above. The level of complexity for this effort is **Low**.
745.	1/2	The system shall provide the capability to allow Permitted Users to cancel i.e. delete from the queue, searches that are in the search request queue	D	X					This is a COTS feature of the proposed Cogent ABIS.
746.	1/2	The system shall allow the operator to change any search parameters and submit or resubmit the search without reentering print characteristics	D	X					This is a COTS feature of the proposed Cogent ABIS.
747.	All	The system shall provide the capability to allow Permitted Users to recall permitted latent prints and edit the characteristics of the print or associated data	D	X					This is a COTS feature of the proposed Cogent ABIS.
748.	All	The system shall provide the capability to periodically save users work	M	X					This is a COTS feature of the proposed Cogent ABIS.
749.	All	The periodicity shall be a configurable item measured in minutes	D	X					This is a COTS feature of the proposed Cogent ABIS.
750.	1/2	The system shall provide the capability to submit latent prints to the FBI for an FBI latent search via the appropriate SFPD protocol	M	X					This is a COTS feature of the proposed Cogent ABIS.
751.	1/2	The system shall provide the capability to store prints intended to be submitted to the FBI for latent searching in an FBI latent queue	D			X			**G** – Configuration. The current Cogent COTS work flow for latents to be submitted to the FBI for searching provides for launching the search as soon as the ULW transaction has been completed. Changing this work flow to allow for a FBI latent queue as desired by the SFPD will be a minor effort to be completed by a **Cogent** Technician. It is estimated that this effort will require less than **20 hours**. The level of complexity for this effort is **Low**.
752.	1/2	The system shall provide the capability to automatically sort the FBI latent queue in priority order	D			X			**G** – Configuration. Providing this capability will require minor changes to the Cogent COTS work flow which will be included when the work flow

									modification needed to comply with requirement #751 are completed. **Cogent**'s level of complexity for this effort is **Low**.
753.	1/2	The system shall provide the capability to submit the highest priority n prints from the FBI Latent Queue on a daily basis.	D			X			**G** – Configuration. Providing this capability will require minor changes to the Cogent COTS work flow which will be included when the work flow modification needed to comply with requirements #751 and #752 are completed. **Cogent**'s level of complexity for this effort is **Low**.
754.	1/2	The daily number of prints, n, sent to the FBI shall be configurable .	D	X					This is a COTS feature of the proposed Cogent ABIS.
755.	1/2	The system shall provide the capability to submit the latents to the FBI at a specified time of day	D			X			**G** – Configuration. The current Cogent COTS work flow for latents to be submitted to the FBI for searching provides for launching the search as soon as the ULW transaction has been completed. Changing this work flow to comply with this capability will require minor changes to the Cogent COTS work flow which will be included when the work flow modification needed to comply with requirements #751-#753 are completed. **Cogent**'s level of complexity for this effort is **Low**.
756.	1/2	The default time of submission of latents to the FBI shall be configurable	D			X			**G** – Configuration. Providing this capability will require minor changes to the Cogent COTS work flow which will be included when the work flow modification needed to comply with requirements #751, #752, #753 and #755 are completed. **Cogent**'s level of complexity for this effort is **Low**.
757.	1/2	The system shall provide the capability to allow Permitted Users to specify time of day for submission to the FBI	D			X			**G** – Configuration. Providing this capability will require minor changes

									to the Cogent COTS work flow which will be included when the work flow modification needed to comply with requirements #751, #752, #753, #755 and #756 are completed. **Cogent**'s level of complexity for this effort is **Low**.
758.	1/2	The system shall provide the capability to allow Permitted Users to delete permitted prints from the FBI Queue	D			**X**			**G** – Configuration. Providing this capability will require minor changes to the Cogent COTS work flow which will be included when the work flow modification needed to comply with requirements #751, #752, #753, #755, #756 and #757 are completed. **Cogent**'s level of complexity for this effort is **Low**.
759.	1/2	The system shall provide the capability to receive latent submission results from the FBI	D	**X**					This is a COTS feature of the proposed Cogent ABIS.
760.	1/2	The system shall provide the capability to automatically notify submitters and contributing agencies when the FBI returns an ident	M	**X**					This is a COTS feature of the proposed Cogent ABIS.
761.	1/2	The system shall provide the capability to automatically return FBI ident information to submitters and contributing agencies when the FBI returns an ident	M	**X**					This is a COTS feature of the proposed Cogent ABIS.
762.	1/2	The system shall provide the capability to automatically assign Latent Ids to latent prints	M	**X**					This is a COTS feature of the proposed Cogent ABIS.
763.	1/2	The system shall provide the capability to allow Permitted Users to assign a unique personal identifier to a latent print	M	**X**					This is a COTS feature of the proposed Cogent ABIS.
764.	1/2	The system shall provide the capability to notify the Submitter when a latent search is completed	M	**X**					This is a COTS feature of the proposed Cogent ABIS.
765.	1/2	The system shall provide the capability to notify the contributing agency when a latent search is completed	M	**X**					This is a COTS feature of the proposed Cogent ABIS.
766.	1/2	The value of any "quality" indicator shall not prevent the addition of a print to a search space	M	X					This is a COTS feature of the proposed Cogent ABIS. Prints may be added to a search space regardless of the image quality indicator.
767.	1/2	The system shall provide the capability to allow Submitters and other Permitted	M	**X**					This is a COTS feature of the proposed Cogent ABIS.

		Users to indicate that a print is an ident for particular search print							
768.	1/2	The system shall return non contributor made Idents to the contributor's Queue	D	X					This configurable capability is a COTS feature of the proposed Cogent ABIS.
	Image Storage(Primary Persistent image storage)								
769.	All	Persistent Image Storage should be on a separate server and should be stored in an Oracle Database to be compatible with SFPD data architecture	M	X					Cogent's ABIS solution uses the Oracle Database and fulfills this requirement with no modification.
770.	All	The system shall provide the capability to store digitized images from normal tenprint card sources i.e. Hard copy or Livescan called normal image storage	M	X					This is a COTS feature of the proposed Cogent ABIS.
771.	All	Palm and tenprint card source images scanned at 500 DPI shall be stored in image storage and shall only be stored at the system configurable compression ratio and with WSQ compression	M	X					This is a COTS feature of the proposed Cogent ABIS.
772.	All	Palm and tenprint card sources images scanned at 1000 DPI stored in image storage shall only be stored at the system configurable compression ratio and with JPEG 2000 compression	M	X					Cogent's COTS ABIS solution for compressing palm print and tenprint images complies with current industry standards and fulfills this requirement with no modification. Additionally, Cogent guarantees that it will comply with future modifications to compression ratios if and/or when approved by the FBI and NIST.
773.	All	Iris and Latent fingerprints and latent Palms shall be stored in the image storage but in an uncompressed bmp/gif/png format	M	X					This is a COTS feature of the proposed Cogent ABIS.
774.	All	All monotone images shall be store in 8 bit grayscale	M	X					This is a COTS feature of the proposed Cogent ABIS.
775.	All	All color images shall be store in 24 bit color bitmap	M	X					This is a COTS feature of the proposed Cogent ABIS.
776.	All	The system shall provide the capability to allow Permitted Users to request images on an ad hoc basis	M	X					This is a COTS feature of the proposed Cogent ABIS.
777.	All	The system shall provide the capability to add images to normal image storage	M	X					This is a COTS feature of the proposed Cogent ABIS.
778.	All	The system shall provide the capability to delete or mark as deleted images from normal image storage		X					This is a COTS feature of the proposed Cogent ABIS. This feature is typically reserved for users with specific permissions to delete images or mark them as deleted, and is a Cogent COTS capability.

779.	All	The system shall provide the capability to link the unique subject system ID, subjects and associated demographic data with all of the subjects print images	M	X					This is a COTS feature of the proposed Cogent ABIS.
780.	All	The system shall provide the capability to store the best composite record and up to three most recent bookings images of prints from each arrest for a subject	M	X					This is a COTS feature of the proposed Cogent ABIS. This is a configurable feature of the Cogent COTS solution, which can be configured for up to an unlimited number of "most recent bookings".
	Paper Conversion This section deals with requirements that deal with dealing with search requests that arrive on hard copy.								
781.	1/2	The system shall provide the capability to process search requests received as hard copy	M	X					Each Cogent workstation accommodates cardscan features and functionality for both tenprint and latent searches as a COTS function.
782.	1/2	Non Latent search requests on hard copy shall be sent to the paper conversion work station for digitizing of all hardcopy information	M	X					Each Cogent workstation accommodates tenprint cardscan features as a COTS function. A dedicated workstation is may be utilized by SFPD to facilitate business practices.
783.	1/2	The system shall provide the capability to process search requests as part of a batch	M	X					Cogent incorporates the COTS IQS certified Epson Automatic Document Feeder to accommodate batch processing.
784.	1/2	Latent search requests on hard copy shall be sent to Latent section for processing	M	X					Each Cogent Latent workstation may accommodate latent inquiries as a COTS feature, however most clients designate Latent workstations to facilitate business practices, as is SFPD's intention. This practice allows for the suite of tools, including latent specific software and hardware to be used to full advantage.
785.	1/2	The system shall provide the capability to time stamp documents received	M	X					When digitized, input records are timestamped as a COTS function, in addition to identifying the workstation utilized. The original

									hardcopy document may also be timestamped by the operator.
786.	1/2	The system shall provide the capability to process documents in time received order	M	X					The COTS Cogent ABIS includes a flexible suite of tools to facilitate record processing and searching, including time received order.
787.	1/2	The system shall provide the capability to ensure no received document is lost at any point in the paper conversion process	M	X					Cogent insures document inventory is controlled during processing by assigning barcode labels to track each document.
788.	1/2	The system shall provide the capability to ensure that any processing does not affect the integrity or usability of the data on the document	M	X					The Cogent processing, both for initial conversion and subsequent operational scanning does not affect the integrity or usability of data on the document, including tenprint, palmprint or latent image cards.
789.	All	The system shall provide the capability to allow Permitted Users to enter text data	M	X					Permitted users may enter text data to converted and operationally digitally scanned images. This is a COTS function.
790.	All	The system shall provide the capability to archive documents received	M	X					The documents are archived in NIST format with search and retrieval functionality as a COTS function.
791.	All	The system shall provide the capability to return documents to submitter	M	X					All documents, submitted for original conversion and subsequent operational scanning/digitization are returned to the submitter. Comprehensive conversion barcoding and control ensure tracking and control of all documents.
	Conversion of old prints This section deals with extracting the characteristics of the prints that already exist in the SFPD system.								
792.	All	All existing prints maintained as digital images compatible with NIST standards shall be converted to allow searches with the new system	M	X					Electronic records incorporated in the conversion, in addition to records added subsequent to when the system is operational, will be converted and maintained as digital images compatible with NIST standards to

									allow searches with the ABIS.
793.	All	The scanned images shall be decompressed at 15:1 using a certified WSQ compression algorithm	M	X					Scanned images shall be decompressed at 15:1 using Cogent's certified WSQ compression algorithm as a COTS function.
794.	All	The decompressed images shall have the AFIS characteristics extracted.	M	X					Decompressed images shall have the ABIS characteristics extracted as a COTS function.
795.	All	The characteristics extracted during conversion shall be entered into the appropriate search space	M	X					The extracted characteristics from conversion, in addition to records entered subsequent to conversion, during ABIS operations, shall be entered into the appropriate search space as a COTS function.
796.	All	During conversion, each subjects print images shall be compared against all others currently in the database to determine if there is a match	M	X					Each subject's print images from the conversion process shall be compared against all others currently in the database to determine if there is a match the images shall be incorporated into a compilation record if warranted by quality.
797.	All	The match threshold during conversion shall be set to that of an autoident for matching	D	X					The matching threshold for these electronic records processed during conversion shall be set to that of an autoident for matching. This feature threshold may be scaled, consistent to SFPD's business practice. Additionally, if desired, records in a "gray" area of lower confidence may be referred for examiner's review, consistent with "best practices".
798.	All	All matching subjects discovered during conversion shall be considered an Ident and consolidated.	D	X					All matching subjects discovered during the conversion shall be considered an identification and consolidated. The matching threshold may be scaled consistent with SFPD's business practice. Latent image matches will be documented and

									referred to SFPD for further law enforcement processing.

Appendices - Introduction

Cogent has included the following Appendices in this proposal:

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A System Compliance and NIST Reports Summary Table

1.1 System Compliance

Cogent has been a proponent of interoperability and communications between criminal justice entities and integration of information systems through established and developing standards to achieve local, regional and national law enforcement goals. To that end, Cogent fully embraces the strategic plans, programs and related standards and guidelines as iterated in Cal DOJ Vision 2015, CLETS 2008 Strategic Plan, Cal DOJ Latent Print Section Strategic Planning, FBI Next Generation Identification (NGI), FBI Information and Technology Strategic Planning, FBI Laboratory Services Strategic Planning and NIST/NIJ Latent Interoperability and Information Sharing Mandate.

In addition, our proposed design reflects our firm commmitment to adherence to U.S. and international standards relating to biometric identification. (See Figure 2-8.) No ABIS vendor has demonstrated the intense commitment to standards compliance that we have demonstrated since our founding. While other vendors continue to use a proprietary format for records stored on their systems, Cogent has always stored records in all delivered systems in native ANSI/NIST-ITL format. All of our systems can exchange biometric data with any ABIS that uses ANSI/NIST-ITL record formats. Furthermore, all systems can accept transactions from any authorized agency equipped with a ULW-enabled workstation. To enable this capability, the ORI and email address of the submitting agency is used to identify authorized ULW workstations and the same rules that the FBI IAFIS applies to verify the submitting agencies are applied by the system.

Industry Groups in Which Cogent Participates

- American Association of Airport Executives (AAAE)
- ASIS International (ASIS)
- BioAPI Consortium
- Biometric Consortium
- European Biometrics Forum
- INCITS B10.9 / M1 Biometric Standards Committees
- International Association of Identification (IAI) AFIS committee
- International Biometric Industry Association (IBIA) (President/CEO is board member)
- ISO SC17 Biometric Standards Committee
- Security Industry Association (SIA)

Compliance with industry standards is only one aspect of our overall approach to interoperability. A second key aspect is our use of a service-oriented architecture that uses loosely coupled components and interfaces based on open standards such as GJXDM compliant XML payloads, SOAP messaging, and HTTP transport. This reduces the cost and complexity of establishing interfaces to legacy systems and reduces vendor dependence.

The proposed solution incorporates software, hardware and professional services that have certification or are in compliance with leading biometrics and other related government or industrial standards. Below is a list of standards (including best practice recommendations) that are applicable (maybe partially) to and are supported (maybe partially, depending to the extent to which the standard is applicable) by one or more components of the proposed solution. The related certifications are also included.

1. ANSI/NIST-ITL 1-2007 “Data Format for the Interchange of Fingerprint, Facial, & Other Biometric Information “

Related certification:

- GSA approved PIV fingerprint templates (ANSI 378 templates) generation software
- GSA approved PIV fingerprint template (ANSI 378 templates) matcher software.

2. FBI CIJS “Electronic Fingerprint Transmission Specification (EFTS) Version 7.1” / “ELECTRONIC BIOMETRIC TRANSMISSION SPECIFICATION (EBTS) v8.0“, including “APPENDIX F IAFIS IMAGE QUALITY SPECIFICATIONS “

Related certifications:

- FBI IAFIS IQS (Image Quality Specifications) Certification for Epson Perfection v700 Fingerprint Scanner with Cogent’s CAFIS Scan Software
- FBI IAFIS IQS (Image Quality Specifications) Certification for CS500e roll/plain and Identification Flats LiveScan Fingerprint Device
- FBI IAFIS IQS (Image Quality Specifications) Certification for Epson 10000XL Series Fingerprint Card / Latent Print Scanner with Cogent’s CAFIS Scan Software
- FBI IAFIS IQS (Image Quality Specifications) Certification for Improvision IS510-1K Batch Fingerprint Card Scan System
- FBI IAFIS IQS (Image Quality Specifications) Certification for LScan-1000P Fingerprint and Palmprint Device
- FBI PIV Single Finger Capture Device Certification for Cogent’s CSD450 Single finger LiveScan capture device
- FBI PIV Single Finger Capture Device Certification for Cogent’s CSD200 Single finger LiveScan capture device
- GSA Approved Product Listing (APL) for Cogent’s CSD450 Single finger LiveScan capture device
- GSA Approved Product Listing (APL) for Cogent’s CSD220 Single finger LiveScan capture device
- GSA Approved Product Listing (APL) for Cogent’s CS500e LiveScan Fingerprint Device as part of the PIV fingerprint image Capture Station

3. IAFIS-IC-0110 WSQ Grayscale Fingerprint Image Compression Specification,

Related Certification:

- FBI certification for Cogent’s WSQ software implementation

4. ANSI INCITS 378-2004, Finger Minutiae Format for Data Interchange

Related Certification:

- GSA approved PIV fingerprint templates (ANSI 378 templates) generation software
- GSA approved PIV fingerprint template (ANSI 378 templates) matcher software

5. ANSI 381-2004, “Fingerprint Image Data Format”

Related Certification:

- GSA Approved Product Listing (APL) for FpCapture Express Software as part of the PIV fingerprint image capture station

6. Mobile ID Device Best Practice Recommendation (draft)

7. NIST Fingerprint Image Quality (NFIQ), NISTIR 7151

8. ISO/IEC International Standard 10918-1, Information Technology – Digital Compression and Coding of Continuous-Tone Still Images Part 1: Requirements and Guidelines.

9. ISO/IEC International Standard 15444-1, JPEG 2000, Information Technology – Digital Compression and Coding of Continuous-Tone Still Images Part 1: Requirements and Guidelines
10. MTR 04B0000022 (Mitre Technical Report), Margaret Lepley, Profile for 1000ppi Fingerprint Compression, Version 1.1, April 2004.7
11. W3C XML and XML Schema, World Wide Web Consortium, Extensible Markup Language
12. BEST PRACTICE RECOMMENDATION FOR THE CAPTURE OF MUGSHOTS Version 2.0 (Appendix H of ANSI/NIST-ITL-1 2007)
13. ANSI INCITS 398-2005, the Common Biometric Exchange Formats Framework (CBEFF)
14. Federal Communications Commission EMC Requirements
15. European Union CE Marking

V FBI & Department of Justice Standards

- Test Procedures for Verifying IAFIS Scanner Image Quality Requirements, CJIS-TD-0110, Federal Bureau of Investigation, March 1995
- GJXDM (V3), 2003, A data reference model for the exchange of information within the justice and public safety communities
- JXDD (V3.02), 2003, Justice XML Data Dictionary
- FBI's CJIS SECURITY POLICY 4.1, March 2005

ANSI & NIST Standards

- CBEFF compliance requirements provided to the Transportation Security Administration's (TSA's) TWIC program.

ISO Standards

- Hardware-enabled to meet the International Organization for Standardization (ISO) 9241, Part 3
- ISO/IEC 19794-2: Information technology — Biometric data interchange formats — Part 2: Finger minutiae data
- ISO/IEC 19794-4: Information technology — Biometric data interchange formats — Part 4: Finger image data
- ISO/IEC 19794-5: Information technology — Biometric data interchange formats — Part 5: Face image data

1.2 NIST Reports Summary Table

The superiority of the Cogent matching solution has been demonstrated in customer-run benchmark tests during the competitive procurement process and in studies conducted by NIST. The studies reported above demonstrate that there is no risk to SFPD-FSD in selecting the Cogent solution. These independent results and studies support the accuracy data that has been provided by Cogent.

Report No.	Title	Relevant Findings
NISTIR 7119	Studies of One-to-One Fingerprint Matching with Vendor SDK Matchers (2003)	Comparison of the 1:1 matching algorithm used by the US-VISIT Program (a Cogent algorithm) to those of eight other vendors. The Cogent algorithm was the most accurate of any tested for matching flat fingerprints. http://fingerprint.nist.gov/SDK/ir_7119.pdf

NISTIR 7123	Fingerprint Vendor Technology Evaluation 2003: Summary of Results and Analysis Report	Evaluated the commercial automated fingerprint identification systems of 18 companies in terms of the accuracy of their one-to-many matching algorithms. Three systems, including Cogent's, were found to be substantially more accurate than all other systems tested and to be comparable to each other. These systems were also found to have consistently low error rates across a variety of large-scale system data sets. http://fpvte.nist.gov/index.html
NISTIR 7110	Matching Performance for the US-VISIT IDENT System Using Flat Fingerprints Report (May 2004)	In this study, the authors concluded that the proprietary system Cogent uses to measure fingerprint quality is "the best-general-purpose finger image quality metric currently available" and that it is equivalent to, if not superior to, the NIST Fingerprint Image Quality (NFIQ) scale. http://sequoyah.nist.gov/pub/nist_internal_reports/ir_7110.pdf
NISITIR 7112	Studies of Plain-to-Rolled Fingerprint Matching Using the NIST Algorithmic Test Bed (ATB; April 2004)	Determined that image quality directly impacts biometric matching accuracy. The study revealed that Cogent's image quality metrics map closely to NIST and Cogent's fingerprint matching algorithms are more robust when searching poor quality search prints or poor quality file prints. At every Quality Level, Cogent's results are superior, and the gap grows as the quality level decreases. ftp://sequoyah.nist.gov/pub/nist_internal_reports/ir_7112.pdf
NISTIR 7151	Fingerprint Image Quality (August 2004)	Evaluated image quality in terms of True Acceptance Rate (TAR) and False Acceptance Rate (FAR). For fingerprints ranked at Quality Level 1 (excellent) on NIST's quality ranking scale, Cogent was the top-ranked vendor with the highest TAR and the lowest FAR. ftp://sequoyah.nist.gov/pub/nist_internal_reports/ir_7151/ir_7151.pdf
NISTIR 7209	SlapSeg04 (Slap Fingerprint Segmentation Evaluation 2004)	Assessed the accuracy of algorithms used to segment slap fingerprint images into individual fingerprint images. Cogent's segmentation algorithm was one of the most accurate algorithms tested. http://fingerprint.nist.gov/slapseg04/index.html
NISTIR 7221	Studies of One-to-One Fingerprint Matching with Vendor SDK Matchers (2005)	Evaluated the accuracy of commercially available Software Development Kits (SDKs) from 12 vendors for 1:1 fingerprint matching. The study compared the accuracy of the SDKs using one finger for authentication. Several Cogent SDKs were tested and were among the top-performing SDKs. http://fingerprint.nist.gov/SDK/ir_7221.pdf
NISTIR 7249	Two Finger Matching with Vendor SDK Matchers (July 2005)	Evaluated vendor SDK accuracy using two fingers for authentication and combined the scores. Several Cogent SDKs were tested and were among the top-performing SDKs. http://fingerprint.nist.gov/SDK/ir_7249.pdf
NISTIR 7296	Minutiae Exchange Interoperability Test	Sought to determine whether the new INCITS 378 fingerprint template standard provides accuracy comparable with proprietary (image-based) implementations,

	(MINEX, March 2006)	and whether template data could be generated and matched by different vendors without attendant increase in error rates. This study had 14 participants, including all major AFIS vendors, and Cogent's algorithms are ranked within the top three (first, second, and third positions) in all major tests. http://fingerprint.nist.gov/minex04/minex_report.pdf
NIST ELFT07	ELFT Phase I - Evaluation of Latent Fingerprint Technology, Phase I (October 2007)	Evaluated automated one-to-many latent fingerprint search technology with a focus on lights-out latent identification capabilities. Cogent achieved a score of 83% compared to an average score of 64% for all 15 vendor SDKs evaluated. In all but one of the matches made by our system, the correct candidate was in the top position. http://fingerprint.nist.gov/latent/elft07/
NIST MBGC	Multiple Biometric Grand Challenge (MBGC; December 2008)	In recognition of many government agencies moving toward multimodal biometric technologies for increased security, this study sought to investigate, test, and improve performance of emerging face and iris recognition technology. In the MBGC Second Workshop preliminary test results, Cogent's facial recognition technology fared best within the vendor community. http://face.nist.gov/mbgc/mbgc_presentations.htm ("MBGC Still Face Challenge Problem Version 1 Preliminary Results")
NISTIR 7553	SlapSegII (January 2009)	Evaluated current state of the art slap segmentation algorithms, accommodating new technology developed since the SlapSeg04 study. The major AFIS vendors, Cogent, NEC and Sagem, all participated in this test, among others. The algorithms were tested on operational data from both 2-inch and 3-inch platen LiveScan devices. Cogent's algorithms achieved the best overall performance in both and ranked #1 in almost all categories reported, and Cogent is the top ranked participant in this test. http://fingerprint.nist.gov/slapsegII/SlapSegII_NISTIR_7553.pdf
NISTIR 7577	ELFT Phase II - An Evaluation of Automated Latent Fingerprint Identification Technologies (April 2009)	Evaluated eight vendor SDKs for searching latents using automatic feature extraction and matching (AFEM). Each vendor submitted a latent and tenprint minutiae extraction algorithm, and a 1-to-many match algorithm that returns a candidate list report. The test dataset contained 835 latent fingerprints, the associated tenprint fingerprint records containing the mates to the latent fingerprints, and two separate galleries of tenprint records, 5,000 records (50,000 fingerprints) and 10,000 records (100,000 fingerprints), respectively. Cogent's SDK was one of the two top-performing SDKs. http://fingerprint.nist.gov/latent/NISTIR_7577_ELFT_PhaseII.pdf

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B Certifications

The following documents include hardware and software certifications for Cogent's proposed solution.

C SEI Self –Assessment Documentation

The following documents include Cogent's SEI Self Assessment Documentation.

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Software Engineering Institute

Self Assessment

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Cogent Document #IG-EXT-DD-410-0.00 (1)

End of the Software Engineering Institute Self Assessment.

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D Quality Assurance Policy

The following document describes Cogent's Quality Assurance Policy.

Cogent Inc.'s Quality Assurance Policy/Program

The subsections below address, respectively, Cogent's quality assurance program and the resources we have available for research/studies relating to AFIS solutions.

Quality Assurance Program

Cogent's quality assurance program uses the process management approach that is central to ISO's quality management methodology. The program can be best described in terms of (1) our quality assurance organization, (2) the mechanisms we use to maintain consistent product/service quality, (3) the quality measures we apply to our products/systems, and (4) the mechanisms we use to ensure continuous product/system improvement. (See Figure 1.) Each of these program elements is briefly addressed in the subsections below.

Figure 1. Elements of Cogent's Quality Assurance Program

<table>
<tr><td rowspan="3">Functional Business Units Responsible for Product/System Quality</td><td colspan="9">Development and Support of Commercial Products for Fingerprint/Palm Print Identification</td></tr>
<tr><td>Project Manage-ment</td><td>Research</td><td>Product Design</td><td>Produc Develop-ment</td><td>Manufactur -ing</td><td>Testing</td><td>Docu-mentation</td><td>Sales</td><td>Product Support</td></tr>
<tr><td colspan="9">Implementation and Support of Turnkey Fingerprint/Palm Print Identification Systems</td></tr>
<tr><td></td><td>Proposal Develop ment</td><td>Project Manag e-ment</td><td>System Design</td><td>System Develop -ment</td><td>Procure -ment</td><td>System Integra-tion</td><td>Data Conver-sion</td><td>Testing</td><td>Train-ing</td><td>Documen-tation</td><td>System Support</td></tr>
<tr><td>Quality Practices</td><td colspan="5">Personnel Management
• Well-defined qualifications for all positions
• Well-defined job responsibilities
• Stringent pre-hire screening process
• Compensation linked to performance
• Effective strategies for retention</td><td colspan="5">Standard Operating Procedures
• Use of industry standard methods/protocols wherever possible
• Written procedures in place to ensure that processes that affect quality are performed in a consistent manner
• Internal reviews/sign-offs at critical points in the product/system lifecycle</td></tr>
<tr><td rowspan="2">Quality Measures</td><td colspan="10">ISO 9126 Characteristics and Subcharacteristics</td></tr>
<tr><td colspan="2">Functionality. Are the required functions available in the product/system?</td><td colspan="2">Reliability. Is the product/system reliable?</td><td colspan="2">Usability. Is the product/system easy to use?</td><td colspan="2">Efficiency. Is the product/system efficient?</td><td colspan="2">Maintainability. Is the product/system easy to maintain?</td><td>Portability. Is product/system adaptable?</td></tr>
<tr><td>Continuous Improvement</td><td colspan="5">Acquire/Apply Feedback on Product/System Quality
• Acquire, analyze and apply customer feedback
• Acquire, analyze and apply user feedback
• Acquire, analyze and apply results of benchmarks performed during competitive procurements
• Participate in product/technology evaluations sponsored by national and international organizations.</td><td colspan="5">Customer-Focused Product Improvement Policies
• Timely updates to:
o Address deficiencies/defects identified by customers
o Add new features/capabilities requested by customers
o Ensure that products/systems remain compliant with applicable industry standards
o Address advances in the state of the art
• Maintain backwards compatibility to previous product versions
• Use ISO 9126 characteristics/subcharacteristics to identify areas where product performance can and should be improved.</td></tr>
</table>

Quality Organization

Our quality assurance organization consists of an internal committee chaired by Cogent's Vice President for System Integration and the managers/supervisors of each of the functional business units involved in the development and support of the products/systems we sell. Figure 1 identifies these functional business units. The Quality Assurance Committee is responsible for implementing policies and procedures aimed at ensuring the quality of delivered products/systems, monitoring product/system quality, implementing corrective action plans, and promoting continuous process improvement.

Quality Practices

It is now widely accepted that quality must be "built in" to a product or system by controlling who produces it and how. Controlling *who* produces a product/system requires a personnel management approach that ensures that the employee assigned to perform a given task affecting a product/system has the necessary knowledge, skills and ability to perform the task. It also requires effective strategies for influencing employee behavior to increase the likelihood that the employee will perform all assigned tasks correctly and will report any problem that he or she might observe. Figure 1 identifies aspects of personnel management that contribute to product/system quality.

To control *how* tasks are performed (i.e., process control), Cogent makes maximum use of industry/standard methods and protocols and uses internally developed standard operating procedures to guide all product/system development processes. (See Figure 1.)

Quality Measures

Cogent uses ISO 9126 as a guide when designing products/system and when assessing product/system quality. Although ISO 9126 was developed to provide a framework for evaluating software quality, we have found that the six quality characteristics defined in standard (See Figure 1) are relevant to both our hardware and software products and to the turnkey systems we deliver.

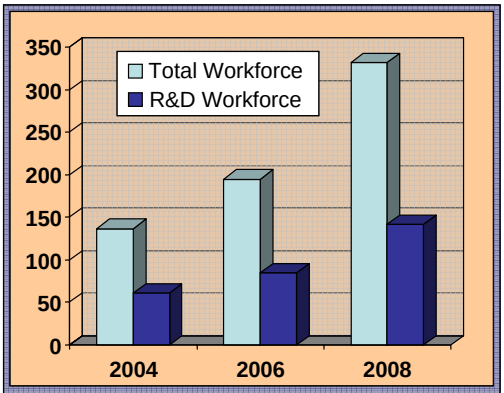
Continuous Quality Improvement

As Figure 1 suggests, we have mechanisms in place to acquire information that can be used to identify opportunities for product/system improvement and procedures for analyzing this information and using it to guide our product improvement efforts. Data sources used include records of calls to our Help Desk, feedback obtained from users via our user group website and/or in user events sponsored by Cogent, suggestions from trainers based on their interactions with users, and suggestions from maintenance personnel. We also analyze and apply information gained from our participation in benchmarks performed as part of competitive procurements and from our participation in technology evaluations sponsored by organizations such as the U.S. National Institute of Standards and Technology (NIST). We also have procedures in place to ensure that our products are brought in line when new industry standards applicable to AFIS products are released or updates to existing industry standards are issued. In developing upgrades for software products or fingerprint matching servers, the upgrades are designed to provide backwards compatibility with previous product versions.

Research/Study Resources

As reflected in Figure 2, Cogent devotes a significant portion of our resources to independent research and development. Our research staff consists of computer scientists and engineers with expertise in fuzzy mathematics, morphology, neural networks, security, encryption, communications, and image compression, matching algorithms, image enhancement, data mining and data fusion. In large part, our research is directed at these objectives: (1) improving fingerprint/palm print matching speed, (2) improving matching accuracy, (3) improving access to identification services, and (4) improving ease of use. To improve access, we continually expand and improve the front-end devices that allow users to send requests to, and receive requests from, a central AFIS.

Figure 2. Human Resources Devoted to Research and Development and Research Areas



More than a third of Cogent's workforce is engaged in research and development.

Cogent makes direct investments in:

- Algorithm development
- Product/hardware development
- Communications
- Software engineering
- Systems integration
- Technology integration
- Industry standards compliance
- Enhancement of user productivity
- Improved matching performance
- Heightened matching speed

Research Areas

- *Image Processing*
  - Image Enhancement
  - Feature Extraction
  - Descriptive Function Modelling
- *Neural Networks*
  - New network architecture design
  - Training algorithm
  - Pattern classification
- *Matching Algorithms*
  - Statistical Pattern Recognition
  - Structural Pattern Recognition
  - Random Process Modeling
  - Error and Distortion Modeling
- *Pipeline Data Flow Computing*
  - Data Flow Algorithm Design
  - Hardware Implementation
  - Fault Tolerance Implementation
- *Compression*
  - Wavelet Compression
  - Coding Design
  - JPEG/MPEG
- *Encryption/Coding*
  - Encryption
  - Digital Signature
  - PKI
- *Scaleable Architecture*
  - Database
  - Networking
  - Operating Systems

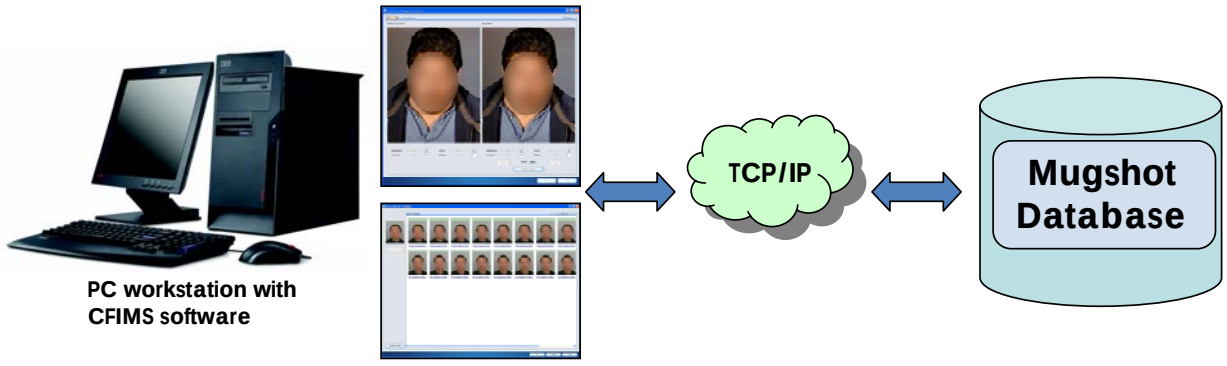
E Product Datasheets

The following documents include Cogent's Product Datasheets for our SFPD-FSD ABIS proposed solution.

COGENT SYSTEMS

Cogent's Facial Identification Management System™ (CFIMS)

Cogent's Facial Identification Management System™ (CFIMS) provides a Web-based, service-oriented, modular facial identification application for law enforcement agencies.



Product Overview

CFIMS is a suspect identification and mugshot program that allows you to:

- Store and access mugshots
- Search and locate records based on a large set of demographic and descriptive data fields
- Search records against the database
- Confirm matches of mugshots to mugshots stored in the database

Product Features

- Graphical and user-friendly interface that is intuitive and easy to learn
- Secure and simple access over the Web
- Ability to query subject information, including detailed personal information and mugshot photos
- Viewing options that allow you to enlarge images, adjust brightness and contrast, and enable side-by-side analysis
- On-screen instructions and a built-in Help system to answer user questions

System Requirements

To use CFIMS, your system must meet the following requirements:

- One of the following Microsoft Windows® operating systems: Windows 2000, Windows Server 2000, Windows XP, Windows Server 2003, Windows Vista
- Internet Explorer® 6 or later
- Microsoft .NET Framework Version 2.0 or later
- An Internet connection

F Training

The following documents include Cogent's Draft Training Plan for our SFPD-FSD ABIS proposed solution, as well as our point-by-point responses to the SFPD's training requirements.

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Version 1.0

San Francisco Police Department Forensic Services Division Automated Biometric Identification System (ABIS) Draft Training Plan

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Document Revision History

Version	Date	Author	Comment
1.0	05/21/2009	Integration Group	Initial version